segments, or less than 3 percent of the total mileage in the study. Prior to finalization of this EIS, the actual miles of river segments recommended for designation will be calculated and the maps redrawn to exclude the private lands outside of the National Forest ownership to avoid the appearance of including these private lands in recommended river segments.

3.3 Outstandingly Remarkable Values

For a river to be eligible for designation to the National System, the river, with its adjacent corridor, must have one or more outstandingly remarkable value (ORV). Appendix A, Suitability Evaluation Reports includes detailed information about the values determined to be outstandingly remarkable. Sections 3.3a to 3.3g describe how an ORV was arrayed in the alternatives and includes a general discussion of the effects of recommending a segment for designation or the effects on segments found not suitable.

During the determination of eligibility, National Forests in Utah used the eligibility criteria offered in the FSH 1909.12, Sec. 82.14a and the "Process and Criteria for Interagency Use" Interagency paper for Wild and Scenic River Review in The State of Utah (July 1996). The criteria are intended to set minimum thresholds to establish ORVs and are illustrative and not all-inclusive. The criteria include: Scenery, Recreation, Geology, Fish, Wildlife, Historic and Cultural, and Other Values. Section 3.3 is organized as follows: 3.3a Scenic Values, 3.3b Recreational Values, 3.3c Fish and Aquatic Habitat Values, 3.3d Wildlife Values, 3.3e Historic and Cultural Values, 3.3f Geologic and Hydrologic Values, and 3.3g Ecological Values.

3.3a Scenic Values

Introduction

The Scenic or Scenery ORVs are applied to river segments that contain the following: The landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features and/or attractions. When analyzing scenic values, additional factors such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed, may be considered. Scenery and visual attractions may be highly diverse over the majority of the river or river segment. (FSH 1909.12, Sec. 82.14a)

Detailed information for Section 3.3a came from Appendix A, Suitability Evaluation Reports, Summary of Outstandingly Remarkable Values.

Affected Environment

Forty-six of the wild and scenic study areas (458 miles) possess outstandingly remarkable scenic values. The outstandingly remarkable scenic values are varied and are described in Appendix A, Suitability Evaluation Reports.

Table 3.3a.1 lists the segments with scenic ORVs, their mileage, whether or not the area is already wholly or partially within an area that offers some protections by other designations, like Wilderness, Research Natural Area (RNA), National Recreation Area (NRA) or National Geologic Area (NGA), and in which alternatives the segments were found suitable.

Table 3.3a.1. Eligible segments with a description of Scenic ORVs. (This information was provided by the Forests and can also be found in Appendix A, Suitability Evaluation Reports).

Eligible Segment	Miles	Classification	Other Designations	Found Suitable in Alternatives

Eligible Segment	Miles	Classification	Other Designations	Found Suitable in Alternatives
Ashley National Forest 24 segments of which 16 have Scenic ORVs.				
Ashley Gorge Creek	10	Wild	NRA	4
Located in an extremely rugged and steep canyon area, steep slopes, rock outcrops, and a mosaic of conifers, aspen, cottonwoods and willows provide breathtaking scenery.				
Black Canyon	10	Wild	No	3, 5
A highly scenic canyon, with a combination of open meadows, forested side slopes, colorful rock outcrops and steep canyons. Stringers of riparian vegetation provide striking diversity.				
East Fork Whiterocks River	4	Scenic	No	5, 6
Runs through a lush riparian area of meadow vegetation for about half its length. Small lakes and streams within basins and meadows dot the northwestern facing slopes.				
Fall Creek	6	Wild	Wilderness	5
Serves as the corridor for primitive trails to the panoramic and strikingly beautiful lakes, meadows, cirque basins, and surrounding peaks and ridgelines in the headwaters. Wildflowers provide variation in color in the higher basins and meadows.				
Green River	13	Scenic	NRA	3, 5, 6
The contrast between winter snow, the clear bluish water, and the red cliffs is striking. Fall colors of cottonwoods, willows, aspen higher up on the slopes, and ponderosa pine along the river contribute to dramatic scenery. Steep, vertical sandstone spires, escarpments of 400-800 feet (Organ Rock), deep gorges, and flat, narrow valley bottoms characterize this watercourse.				
Middle Main Sheep Creek	5	Recreational	NGA	3, 5
Located within the Sheep Creek Canyon National Geological Area. Steep canyon walls, color variations in geologic features and formations, riparian vegetation, and forested side slopes attract thousands of regional, national and international visitors.				
Middle Whiterocks River	9	Wild	No	6
Considered pristine in nature, this segment has views of Cliff Lake falls. The canyon bottom is extremely rugged, with small falls, pools, steep forested side slopes, side canyons, and many rock outcrops. Riparian vegetation provides color variation.				
Oweep Creek	20	Wild	Wilderness	5
Cirque basins, broad glacial valleys, lakes, numerous meadows and V-shaped canyons are the principal scenic attractions. The “Scenic” value is well known, due to the popularity of the Moon Lake Reservoir area, and heavily used trails.				
Reader Creek	6	Scenic	No	3, 5, 6
The river, lakes, and streams cross through a striking landscape of basins, meadows, ridgelines and peaks. Riparian areas and meadows provide seasonal variation in color during late fall months. There is exceptional contrast in vegetative cover with the high ridges that parallel both sides of the river and tributary. The corridor offers panoramic vistas of the peaks of the High Uintas.				
South Fork Ashley Creek	15	Scenic	No	5
Lakeshore Basin is part of the upper headwaters of this segment and is a highly scenic backcountry area. Forested slopes, glaciated cirques and basins, lateral moraines, rock outcrops, steep escarpments, alpine meadow, and small lakes are located adjacent to this stream. Spruce, fir, and ground vegetation provide scenic contrast with ridges, meadows, lakes and streams.				
Upper Lake Fork River, including Ottoson and East Basin Creeks	35	Wild	Wilderness	5
Cirque basins, broad glacial valleys, lakes, numerous meadows and V-shaped canyons are the principal scenic attractions. The “Scenic” value is well known, due to the popularity of the Moon Lake Reservoir area, and heavily used trails.				
Upper Rock Creek	21	Wild	Wilderness	5
The watercourse serves as the corridor for primitive trails to the panoramic and beautiful lakes, meadows, cirque basins, and surrounding peaks and ridgelines in the headwaters. Summer wildflowers provide color in the higher basins and meadows.				
Upper Whiterocks River	4	Scenic	No	5, 6
The river crosses through a striking landscape of basins, meadows, ridgelines and peaks. Riparian areas and meadows provide seasonal variation in color during late fall months. There is exceptional contrast in vegetative cover with the high ridges that parallel both sides of the river and tributary. The corridor offers panoramic vistas of the peaks ("bollies") of the High Uintas.				
Upper Yellowstone Creek, including Milk Creek	33	Wild	Wilderness	5, 6
There are outstanding views of waterfalls and forested slopes along the stream corridors, along with alpine lakes, glaciated cirques and basin, and meadows.				
West Fork Rock Creek, including Fish Creek	13	Wild	Wilderness	5
Serves as the corridor for primitive trails to the panoramic and strikingly beautiful lakes, meadows, cirque basins, and surrounding peaks and ridgelines in the headwaters. Wildflowers provide variation in color in the higher basins and meadows.				
West Fork Whiterocks River	11	Scenic	No	5, 6
The river crosses through a striking landscape of basins, meadows, ridgelines and peaks. Riparian areas and meadows provide seasonal variation in color during late fall months. There is exceptional contrast in vegetative cover with the high ridges that parallel both sides of the river and tributary. The corridor offers panoramic vistas of the peaks ("bollies") of the High Uintas.				
Dixie National Forest 10 segments of which 9 have Scenic ORVs				
Death Hollow Creek	10	Wild	Wilderness	3, 5, 6

Eligible Segment	Miles	Classification	Other Designations	Found Suitable in Alternatives
The lower reaches of the river flow through the Escalante Monocline and into Navajo Sandstone where the canyon narrows into a slot canyon and slickrock pocket catch and hold water year-round.				
East Fork Boulder Creek	3	Wild	No	5
This segment is located at the base of the ledge dominated face of the Aquarius Plateau known as the Boulder Top. The upper reaches of the creek are dominated by wet marshy meadows speckled with small beaver ponds, highlighted with a band of aspen trees. The lower reaches of the creek are located in a mixed conifer forest that boasts large Engelmann spruce and Douglas-fir trees. The presence of mule deer, black bear, and large herds of elk enhance the corridor's scenic qualities.				
Mamie Creek	2	Wild	Wilderness	3, 5
Joint Grand Staircase-Escalante National Monument/Dixie NF eligibility report did not specify why the scenic value is remarkable. More information and research is needed.				
North Fork Virgin River	1	Scenic	No	3, 5, 6
The river flows down the south face of the Markagunt Plateau through high elevation landscapes of Jurassic and Cretaceous sediment deposits, with extensive viewsheds and examples of stream erosion in Utah. The upper portions of the watershed are located amidst the pink cliffs of the Virgin River rim.				
Pine Creek	8	Wild	Wilderness	3, 5
This small, fast running creek is predominantly a step-pool system that carves its way through the Escalante Monocline and into Navajo Sandstone. The upper reaches of the creek are particularly scenic with steep cliffs ranging from 800 to 1,200 feet tall that descend to the creek's edge which is vegetated with large spruce and ponderosa pine trees. The lower reaches transition into sandy benches thick with willows and ponderosa pines, but maintain the spectacular cliff walls.				
Cottonwood Canyon – (Located on Dixie NF, but administered by Fishlake NF)	6	Wild	No	*
The area offers dramatic contrasts of color, texture, and slope.				
Slickrock Canyon – (Located on Dixie NF, but administered by Fishlake NF)	2	Wild	No	5
The area offers dramatic contrasts of color, texture, and slope.				
Steep Creek (4 miles in Alt. 3) – (Located on Dixie NF, but administered by Fishlake NF)	7	Wild	No	3, 5
The area offers dramatic contrasts of color, texture, and slope.				
The Gulch – (Located on Dixie NF, but administered by Fishlake NF)	2	Recreational	No	3, 5
The area offers dramatic contrasts of color, texture, and slope.				
Fishlake National Forest 5 segments of which 0 have Scenic ORVs				
Manti-La Sal National Forest 10 segments of which 5 have Scenic ORVs				
Hammond Canyon	10	Scenic	No	3, 6
Hammond Canyon possesses an excellent combination of vegetative and geologic contrasts. Ponderosa pine and Douglas-fir that are well developed in the upper reaches contrast with the white cliffs. This massive Wingate sandstone uniquely contrasts with ponderosa pine. Exposed brownish red Moenkopi Formation sits atop the white Cedar Mesa Sandstone providing an additional color contrast. Geologic features are abundant including cliffs with more than 1000 feet of relief and many free standing pinnacles.				
Huntington Creek	19	Recreational	No	4, 6
The canyon area is narrow, with a willow/riparian bottom and tree covered side slopes. The corridor of the creek exhibits rich diversity in vegetation and geology. The canyon areas and side canyons are capped with sandstone formations. The colorful geology, aspen and mountain brush on south facing slopes, conifer cover on north facing slopes, lush riparian vegetation along crystal clear streams, and rock outcrops and ledges all provide outstanding scenery in canyon environments.				
Lower Left Fork of Huntington Creek	5	Scenic	No	4, 6
The colorful geology and aspen, mountain brush, conifers, and riparian vegetation provide an outstanding scenic canyon environment. The north facing slopes are covered with a combination of conifer and aspen. The south facing slopes have splashes of conifer and aspen, but mostly mountain brush and sagebrush.				
Mill Creek Gorge	3	Wild	RNA	5
Riparian vegetation covers the stream banks. Rock outcrops and ledges add variety and a rugged beauty to this canyon.				
Roc Creek	9	Wild	No	3, 5
Sinbad Ridge forms the north wall of the 1,500-foot gorge of Roc Creek. Green forests of Douglas-fir and ponderosa pine frame the brilliant red walls of the canyon. A pinyon-juniper forest covers the mesa above the canyon. Faulting and erosion have created ledges, benches and spire-like sandstone columns along the cliff areas of the gorge and along Sinbad Ridge				
Uinta National Forest 4 segments of which 2 have Scenic ORVs				
North Fork, Provo River	1	Wild (9 mi.); Recreational (4 mi.)	Wilderness	4, 6

Eligible Segment	Miles	Classification	Other Designations	Found Suitable in Alternatives
Scenic views from near the stream are spectacular with the rugged peaks of Mt. Timpanogos and the extreme alpine topography which includes exposed strata and large rock outcrops. Interesting features in the upper reaches include glacier-carved cirques and a series of waterfalls. This combination of features and access are unusual in northern Utah.				
South Fork, American Fork River	1	Wild (1.1 mi.); Recreational (0.3)	Wilderness	5
Waterfalls and scoured glacial valleys and cirques are special attractions in the area, and breathtaking views of the face of Mt. Timpanogos are visible from the stream corridor. Scenic views from the stream to Mt. Timpanogos are very striking. Seasonal variability in the colors of aspen, wildflowers and other vegetation add to the experience.				
Wasatch-Cache National Forest 33 segments of which 14 have Scenic ORVs				
East Fork Smiths Fork	12	Wild	Wilderness	3, 5
The background views of the cirque are visually striking. The intermixing of vegetation types with the broad riparian areas bordered by conifers and tall rugged mountain peaks is diverse. The view of the Red Castle Lakes area may be the most spectacular in the Uintas. It is often photographed and published on calendars and other publications.				
Hayden Fork: Source to Mouth	12	Recreational	No	4, 6
The diversity of views in the corridor is of high value, with varied riparian and alpine scenes present which are accessible to many visitors. Seasonal variation is offered by deciduous riparian vegetation and adjacent upland aspen.				
Henry's Fork	12	Wild	Wilderness	3, 5, 6
The background views of the cirque from the upper portions of the trail are visually striking. The intermixing of vegetation types with the broad riparian areas bordered by conifers and tall rugged mountain peaks is diverse.				
Left Fork South Fork Ogden River	5	Wild	No	5
The canyon through which the segment flows has lush vegetation with visually striking rock outcrops throughout the segment. Its undisturbed character contributes to the visual quality. Cascading water create pleasing views.				
Left Hand Fork Blacksmiths Fork	15	Recreational	No	*
The scenery provides a mosaic of colors and textures year-round. This value, when compared to nearby adjacent drainages and areas can be considered outstandingly remarkable.				
Left, Right, and East Forks Bear River	13	Wild	Wilderness	4, 6
This same glacial action combined with the anticlinal uplift of the general Uinta Range has produced a scenic display in these drainages that is remarkable. Views of the Cathedral, Mt. Beulah, and the waterfalls near the confluence of the Left and Right Hand Forks are special when compared to others in the range.				
Little Cottonwood Creek	8	Recreational	Wilderness	4
Mountain goats are visible in some areas and people stop to view them. Topographic relief is great, and vegetation diversity is very good. Scenes in the upper portion of the segment are very high quality. This kind of valley scene is unique locally and is considered one of the more spectacular viewsheds in the area. Several viewpoints within the corridor offer a spectacular diversity of view. Scenic views from the stream to the rugged cliff faces are very striking.				
Logan River: Beaver Creek Guinavah-Malibu Campground	19	Recreational	No	4, 6
Scenery along the segment has been recognized as outstanding by the creation of the National Scenic Byway for Highway 89. This scenery is diverse and variable, a scenic smorgasbord of this part of the Wasatch Range.				
Main Fork Weber River	6	Scenic	No	*
Visitors to the river corridor enjoy varied scenery that range from vistas of Bald Mountain and Reids Peak, which can be seen from the upper reaches to views from the stream corridor that are of the immediate heavily-timbered forest and steep and rugged canyon walls.				
Middle Fork Weber River	6	Wild	No	5
Striking views of rugged country are provided from the upper reach of this stream. The river corridor offers a pristine visual appeal with a variety of views throughout the corridor. Seasonal variations enhance the scenic quality in the corridor. The upper reach of the river near Mt. Watson provide vast views of remote country. Along the route lush meadows and open woodlands provide the visitor a variety in the landscape. Openings in the vegetation allow scenic views down valley.				
Provo River: Trial Lake to U35 Bridge	20	Recreational	No	4, 6
While resource damage is still evident from the Trial Lake Dam failure, views from the corridor are still very pleasing and enjoyable. The Provo River Falls is an unusual feature that is particularly memorable. Autumn views along the river are spectacular.				
Stillwater Fork: Source to Mouth	14	Wild (6.1 Mi.); Scenic (8 Mi.)	Wilderness	4, 6
The scenic view from lower elevations along the Stillwater Fork provides a remarkable view of the high elevations of the High Uintas and its surrounding landscape. This view is often painted and photographed and appears frequently in publications.				
West Fork Blacks Fork	12	Wild (8 Mi.); Scenic (3.9 Mi.)	Wilderness	3, 5
The wide meadows and valley afford spectacular views of the High Uintas for photographers, hikers, and artists.				
Willard Creek	4	Scenic	No	3, 5

Eligible Segment	Miles	Classification	Other Designations	Found Suitable in Alternatives
The canyon through which Willard Creek flows has dramatic topographic relief. It is visually striking. The two waterfalls present create a memorable focal point.				

* River segment only found in Alternatives 1 and 2.

Environmental Consequences

See Table 3.1.1 for restriction to activities within stream corridors based on classification. Refer to Table 3.1.2 for a list of basic assumptions.

Section 3.3a addresses one issue:

> Issue 4 – Designation offers long-term protection of resource values. The measurement indicator for scenic values is miles of river by Wild, Scenic, and Recreational classification and analysis of the impacts to the ORVs by river.

Table 3.3a.1 summarizes the effects showing miles of river segments with scenic ORVs found suitable in each alternative by classification.

Table 3.3a.2. Miles of segments with scenic ORVs found suitable by alternative and classification.

Segments with Scenic ORVS		Alternatives					
		1	2	3	4	5	6
Total Segments	46	0	0	16	10	31	19
Total Miles	458	0	0	123	121	290	212
Recreational Miles	101	0	0	7	78	7	70
Scenic Miles	90	0	0	38	13	61	82
Wild Miles	267	0	0	78	30	222	60

Alternative 1 – No action, maintain eligibility of all river segments.

All 86 river segments (840 miles) would continue to be managed as eligible for their potential inclusion into the National System, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, recommended classification and scenic ORVs. Refer to Table 3.1.2 for specifics on interim management. Scenic resources will be managed by Forest Plans, including the Scenery Management Systems/ Visual Quality Indicators. Scenery may be adversely affected by the projects of others for which the Forest Service has no or limited authority (e.g., development of a federal dam, or licensing of a hydropower plant). If these projects were built they would dramatically change segment landscape.

Alternative 2 – No rivers recommended.

Under this alternative, a determination would be made that all 86 segments (840 miles) are determined not suitable and released from Wild and Scenic River interim protection. Protection of river values would continue to be managed by the standards provided in the underlying Forest Plans for the area, which can be amended as needs emerge, changing visual/scenery standards for the segments. Choosing this

alternative would not in itself initiate any changes to forest scenic quality nor would it provide any additional protection for scenic values on the forest.

Over time, depending on area management standards, large-scale projects like dams, water projects and other activities such as timber harvest and road building could be approved for some segments, affecting scenic quality. The combined effect of existing and potential water projects if managed to change the free-flow would be 69 segments, a total of 788 miles of stream (see Tables 3.12.3 and 3.12.4). In the case of reservoirs, if developed on rivers such as the Logan River, Beaver Creek, Huntington Creek, and Blacks Fork Creek, the visual change would be dramatic. The change would be from a moving river and associated canyon and riparian areas, to a flat water reservoir. Aesthetically, both settings can be very attractive, but the character is quite different. A reservoir also would introduce additional elements into the landscape such as the dam structure itself, powerhouse, power lines, roads, parking areas, boat ramps and lighting. Many of these elements can be planned to blend in with the natural setting, but there is a more developed look associated with reservoir environments.

Seventeen segments (52 miles) will not be affected by water development projects or other large-scale activities and here scenery will generally remain the same. Segments would be managed as per Forest Plan Scenic Integrity/Visual Quality Objectives. Segments without water resource potential, or in extremely rugged, inaccessible areas, may remain undeveloped. Additionally, the approximately 391 miles of segments which are located in Wilderness and Research Natural Areas will generally remain unaffected.

Alternative 3 – Recommend rivers that best represent Utah ORVs while having the least affect on existing or reasonably foreseeable future water resources projects and other developmental activities.

Under Alternative 3, 16 rivers segments with scenic ORVs (123 miles) would be recommended for designation. Those segments found suitable for wild and scenic designation would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis and Table 3.1.2), and could be congressionally designated. Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality or ORVs, and require a comprehensive river management plan be developed within three years of designation to protect free flow and ORVs. Those segments with scenic ORVs would be managed to protect scenery. Segments designated in Wilderness or other special legislative management prescription would continue to carry those management guidelines, along with Wild and Scenic River Act and comprehensive river management plan prescriptions.

The 30 segments (335 miles) with scenic ORVs determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and effects on scenery as discussed in Alternative 2 would apply. Thirteen of the 30 segments are wholly or partially in designated Wilderness, Research Natural Area, National Recreation Area, or National Geologic Area and will generally remain unaffected (see Table 3.3a.1). Fourteen of the 30 segments determined not suitable have proposed water projects on them which would change current scenic qualities, as outlined in Table 3.12.6. Under this alternative, most planned water projects might be able to move forward, and a change in scenery is expected as these projects are developed.

Alternative 4 – Recommend rivers that best represent Utah ORVs that could be adversely affected by existing or reasonably foreseeable future water resources projects and other developmental activities.

Under this alternative, 10 segments with scenic ORVs (121 miles) would be recommended as suitable for designation. Those segments found suitable for wild and scenic designation would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis), and could be congressionally designated. Congressional action would require a comprehensive river management plan be developed within three years of designation. Those segments with scenic ORVs would be managed to protect scenery.

The 36 segments (337 miles) determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and effects on scenery as discussed in Alternative 2 would apply. Sixteen of the 36 segments are wholly or partially in designated Wilderness, Research Natural Area, National Recreation Area, or National Geologic Area and will generally remain unaffected. Nine of the 36 segments determined not suitable have proposed water projects on them which would change current scenic qualities as these projects are developed (see Table 3.12.7).

Alternative 5 – Recommend rivers with low cost for management that are consistent with other Federal wild and scenic studies and which have limited negative impact to community economic development.

Thirty-one segments with scenic ORVs (290 miles) would be found suitable and recommended for designation, the effects on scenery are discussed in Alternative 3.

The 15 segments with scenic ORVs (168 miles) determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and the effects on scenery as discussed in Alternative 2 would apply. Five of the 15 segments are wholly or partially in designated Wilderness, Research Natural Area, National Recreation Area or National Geologic Area and will generally remain unaffected. Under this alternative, 13 planned water projects would be able to move forward, and a change in scenery is expected as these projects are developed. (See Table 3.12.8).

Alternative 6 – Recommend river segments recognized by public groups that represent a diversity of river systems in Utah and those that face future threats.

In Alternative 6, 19 segments with scenic ORVs (212 miles) would be found suitable and recommended for designation and effects on scenery as discussed in Alternative 3 would apply.

The 17 segments with scenic ORVs (246 miles) determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and the effects on scenery as discussed in Alternative 2 would apply. Fourteen of these 17 segments are wholly or partially in designated Wilderness, Research Natural Area, National Recreation Area, or National Geologic Area and will generally remain unaffected. In this alternative, 6 planned water projects would be able to move forward, and a change in scenery is expected as these projects are developed (See Table 3.12.9).

3.3b Recreational Values _____ Introduction

The Recreational ORV is applied to river segments that contain the following: River related opportunities include, but are not limited to, sightseeing, interpretation, wildlife observation, camping, photography, hiking, fishing, hunting, and boating. The river may provide settings for national or regional usage or competitive events. (FSH 1909.12, Sec. 82.14a).

Recreational ORVs represent opportunities that apply to river segments that are popular enough to attract visitors from throughout or beyond Utah's boundaries or are unique or rare in Utah or nationally.

This section discusses the affected environment and environmental impacts on outstandingly remarkable recreation values. Refer to Section 3.8 for a description of impacts on recreation in general.

Detailed information for Section 3.3b came from Appendix A, Suitability Evaluation Reports, Summary of Outstanding Remarkable Values.

Affected Environment

Twenty-three, or 180 miles, of the 86 eligible river segments under study possess outstandingly remarkable recreational values. These ORVs are significant or unique either in Utah, and/or a national scale.

Table 3.3b.1 lists the segments with Recreation ORVs, their mileage, whether or not the area is already wholly or partially within an area that offers some protections by other designations like Wilderness, National Recreation Area (NRA), or National Geologic Area (NGA), Research Natural Area (RNA), and in which alternatives the segments were found suitable.

Table 3.3b.1. Eligible segments with a description of the Recreation ORVs. (This information was provided by the forests and can also be found in more detail in Appendix A, Suitability Evaluation Reports).

Eligible Segment	Miles	Classification	Other Designation	Found Suitable in Alternatives
Ashley National Forest 24 segments of which 5 have Recreational ORVs				
Green River*	13	Scenic	NRA	3, 5, 6
Year round world class fishing, fish density high, large sized fish and size continuous flow for a variety of boating such as rafting, kayaking, canoeing, etc, trails, access to Flaming Gorge/Uintas National Scenic Byway, photography, picnicking, scenic. Recreation facilities include: boat ramps, parking areas and restrooms, overlooks, trails.				
Lower Main Sheep Creek	4	Recreational	NRA	3, 5
Flaming Gorge National Scenic Byway parallels portions of the segment, Kokanee salmon spawning, easy access, fishing, hiking, and camping. Recreation facilities include: developed campgrounds, trails, interpretive sites.				
Reader Creek	6	Scenic	No	3, 5, 6
Outstanding backcountry scenery, solitude, fishing, backpacking, recreational stock use, deer and elk hunting, snowmobiling. Recreation facilities: trails and stream trail crossings.				
Upper Whiterocks River	4	Scenic	No	5, 6
Scenic, fishing, hunting, horseback riding driving for pleasure, hiking and dispersed camping. Recreation facilities: trailhead parking, trails, road bridge.				
West Fork White Rocks River	11	Scenic	No	5, 6
Outstanding backcountry scenery, solitude and fishing. Backpacking, recreation stock use, deer and elk hunting and snowmobiling. Access to High Uintas Wilderness. Recreation facilities: Developed trailhead, trail, and foot bridges.				
Dixie National Forest 10 segments of which 9 have Recreational ORVs				
Death Hollow	10	Wild	Wilderness	3, 5, 6
Scenery, primitive recreation/hiking, solitude. Recreation facilities: none.				
East Fork Boulder Creek	3	Wild	No	5
Scenery, fishing, hunting, hiking. Recreation facilities: one trail.				
Mamie Creek	2	Wild	Wilderness	3, 5
Scenery, primitive recreation, hiking, swimming, rock climbing, advanced navigations skills. Recreational facilities: none.				
North Fork Virgin River	1	Scenic	No	3, 5, 6
Scenery, water fall, hiking, sightseeing, trail access. Recreation facilities: trail, viewing platform.				
Pine Creek	8	Wild	Wilderness	3, 5
Scenery, hiking through box canyon along creek. Recreation facilities: trail.				

Eligible Segment	Miles	Classification	Other Designation	Found Suitable in Alternatives
Cottonwood Canyon – (Located on Dixie NF, but administered by Fishlake NF)	6	Wild	No	*
Scenery, hiking, back packing, steep winding canyon provides solitude and primitive experience. Recreation facilities: trail near-by.				
Slickrock Canyon– (Located on Dixie NF, but administered by Fishlake NF)	2	Wild	No	5
Scenery, steep winding canyon provides solitude and primitive recreation experience. Hiking and backpacking. Recreation Facilities: trail near-by.				
Steep Creek – (Located on Dixie NF, but administered by Fishlake NF)	7	Wild	No	3, 5
Scenery, steep winding canyon provides solitude and primitive recreation experience. Hiking and backpacking. Recreation Facilities: trail near-by.				
The Gulch– (Located on Dixie NF, but administered by Fishlake NF)	2	Recreational	No	3, 5
Scenery, steep winding canyon provides solitude and primitive recreation experience. Hiking and backpacking. Recreation Facilities: non system trail near-by, forest roads.				
Fishlake National Forest 5 segments of which 2 have Recreational ORVs				
Corn Creek	2	Scenic	No	**
Fishing, hiking, horseback riding, vehicle access, camping, springs. Recreation facilities: trail.				
Salina Creek	7	Wild	No	5
Remote, expert level fishing Recreation facilities: trail near-by.				
Manti-La Sal National Forest 10 segments of which 1 has Recreational ORVs				
Huntington Creek*	19	Recreational	No	4, 6
Scenery, variety of recreation opportunities such as camping, fishing-blue ribbon fishery, hiking, horseback riding, all terrain vehicle use, driving for pleasure, rock climbing, cross country skiing, adjacent to The Energy Loop: Huntington and Eccles Canyons National Scenic Byway. Recreation facilities: trail, visitor center, forest roads.				
Uinta National Forest 4 segments of which 1 has Recreational ORVs				
Fifth Water Creek	8	Scenic	No	3
Hot springs are major attraction. Hiking, biking, dispersed camping, hunting, fishing and motorcycle riding. Recreation facilities: trail.				
Wasatch-Cache National Forest 33 segments of which 5 have Recreational ORVs				
Beaver Creek: Source to Forest Boundary	6	Recreational	No	6
Variety of activities all seasons, easy access, Mirror Lake Scenic Highway parallels, camping, hiking fishing, cross country skiing, ATV trail. Recreation facilities: developed campgrounds & picnic area, trails.				
East Fork Smiths Fork: Red Castle Lake to Trailhead	12	Wild	Wilderness	3, 5
Scenery, primitive setting, easy access, hiking, horseback riding, fishing. Recreation facilities: trail.				
Henry's Fork: Henry's Fork Lake to Trailhead	8	Wild	Wilderness	3, 5, 6
Scenery, primitive setting, easy access, hiking, horseback riding, fishing, shortest/easiest access to Kings Peak. Recreation facilities: trail.				
Logan River: confluence with Beaver Creek to bridge at Guinavah-Malibu Campground	19	Recreational	No	4,6
Scenery, fishing, tubing, kayaking, hiking, rock climbing, along Logan Canyon National Scenic Byway, easy access. Recreational facilities: developed campgrounds, trailheads, trails.				
Provo River: Trial Lake to U35 Bridge	20	Recreational	No	4, 6
Scenery, fishing, developed and dispersed camping, hiking, horseback riding, hunting, ATV trail use, along the Mirror Lake Scenic Byway, trailheads and viewing areas. Recreation facilities: developed campgrounds, picnic areas, overlooks, trailheads and trails, interpretive sites.				

* State of Utah Natural Resources Division of Wildlife Resources, Blue Ribbon Fishery.
** Only found in Alternatives 1 and 2.

Environmental Consequences

See Table 3.1.1 for restriction to activities within stream corridors based on classification. Refer to Table 3.1.2 for a list of basic assumptions.

Section 3.3b addresses one issue:

Issue 4 – Designation offers long-term protection of resource values. The measurement indicators are: miles of river by Wild, Scenic, and/or Recreational classification and the analysis of the impacts to Recreational ORVs by river.

Table 3.3b.2. Miles of segments with Recreation ORVs found suitable by alternative and classification.

Segments with Recreational ORVS		Alternatives					
		1	2	3	4	5	6
Total Segments	23	0	0	12	3	17	11
Total Miles	180	0	0	81	58	104	117
Recreational Miles	70	0	0	6	58	6	64
Scenic Miles	45	0	0	27	0	38	34
Wild Miles	65	0	0	48	0	60	19

Alternative 1 – No action, maintain eligibility of all river segments.

All of the 86 river segments (840 miles) would continue to be managed as eligible for their potential inclusion into the National System, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, Recreational ORVs, and recommended classification (interim management outlined in FSH 1909.12 Chapter 80-Wild and Scenic River Evaluation). Management would continue to be in accordance with existing laws and regulations and Forest Plans.

Alternative 2 – No rivers recommended.

Under this alternative, a determination would be made that all 86 river segments (840 miles) are not suitable and released from Wild and Scenic River interim protection. Therefore, no river segments with Recreation ORVs would be recommended as suitable. Segments would continue to be managed under general guidance of Forest Plan direction and in accordance with existing laws and regulations. Without the development of a comprehensive river management plan, recreation and non-recreation ORVs may be affected by unmanaged activities and amounts of use.

Alternative 3 – Recommend rivers that best represent Utah ORVs while having the least affect on existing or reasonably foreseeable future water resources projects and other developmental activities.

Twelve segments (81 miles) with Recreation as an ORV would be recommended as suitable for designation in to the Wild and Scenic River System. Those segments would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis and Table 3.1.2), and could be congressionally designated. Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, or Recreational ORVs, and require a comprehensive river management plan be developed within three years of designation to protect free flow and Recreational ORVs.

The 11 segments (99 miles) with recreation ORVs determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and impacts on recreation ORVs may occur as discussed in Alternative 2. Those segments determined not suitable that have proposed water projects on them could change current recreational qualities (see Table 3.12.6). Under this alternative, most planned water projects might be able to move forward, and a change in recreation is expected as these projects are developed.

Table 3.3b.3. Alternative 3, rivers with Recreation ORVs.

Eligible River Segment	Classification	Miles
Ashley National Forest		
Green River*	Scenic	13
Lower Main Sheep Creek	Recreational	4
Reader Creek	Scenic	6
Dixie National Forest		
Death Hollow	Wild	10
Mamie Creek	Wild	2
North Fork Virgin River	Wild	1
Pine Creek	Wild	8
Steep Creek	Wild	7
The Gulch	Recreational	2
Uinta National Forest		
Fifth Water Creek	Scenic	8
Wasatch-Cache National Forest		
East Fork Smiths Fork: Red Castle Lake to Trailhead	Wild	12
Henry's Fork: Henry's Fork Lake to Trailhead	Wild	8

* State of Utah Natural Resources Division of Wildlife Resources, Blue Ribbon Fishery

Alternative 4 – Recommend rivers that best represent Utah ORVs that could be adversely affected by existing or reasonably foreseeable future water resources projects and other developmental activities.

Three segments (58 miles) with Recreation as an ORV would be recommended for designation in to the Wild and Scenic River System. This alternative recommends rivers with recreation as an ORV from the central to north part of the state, one segment on the Manti-La Sal National Forest, and two on the Wasatch-Cache National Forest. Those segments would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis and Table 3.1.2), and could be congressionally designated. Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, or Recreational ORVs, and require a comprehensive river management plan be developed within three years of designation to protect free flow and Recreational ORVs.

The 20 segments (122 miles) with recreation ORVs determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and impacts on recreation may occur as discussed in Alternative 2. Of those 20, three are in designated Wilderness and two are in a National Recreation Area designation and will generally remain unaffected. Those segments determined not suitable that have proposed water projects on them could change current recreational qualities (see Table 3.12.6).

Table 3.3b.4. Alternative 4, rivers with Recreation ORVs.

Eligible River Segment	Classification	Miles
Manti-La Sal National Forest		
Huntington Creek*	Recreational	19
Wasatch-Cache National Forest		

Eligible River Segment	Classification	Miles
Logan River: confluence with Beaver Creek to Bridge at Guinavah-Malibu Campground	Recreational	19
Provo River: Trail Lake to U35 Bridge	Recreational	20

* State of Utah Natural Resources Division of Wildlife Resources, Blue Ribbon Fishery

Alternative 5 – Recommend rivers with low cost for management that are consistent with other Federal wild and scenic studies and which have limited negative impact to community economic development.

Seventeen segments (104 miles) with Recreation as an ORV would be recommended for designation in to the Wild and Scenic River System. The Ashley, Dixie, and Wasatch-Cache National Forests would have river segments with Recreation as an ORV protected through designation. Those segments would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis and Table 3.1.2), and could be congressionally designated. Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, or Recreational ORVs, and require a comprehensive river management plan be developed within three years of designation to protect free flow and Recreational ORVs.

The 6 segments (76 miles) with recreation ORVs determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and impacts on recreation may occur as discussed as discussed in Alternative 2. Of those 6, none are in designated Wilderness and would not have additional protections. Those segments determined not suitable that have proposed water projects on them could change current recreational qualities (see Table 3.12.6).

Table 3.3b.5. Alternative 5, rivers with Recreation ORVs.

Eligible River Segment	Classification	Miles
Ashley National Forest		
Green River*	Scenic	13
Lower Main Sheep Creek	Recreational	4
Reader Creek	Scenic	6
Upper Whiterocks River	Scenic	4
West Fork Whiterocks River	Scenic	11
Upper White Rocks	Scenic	4
Dixie National Forest		
Death Hollow	Wild	10
East Fork Boulder creek	Wild	3
Mamie Creek	Wild	2
North Fork Virgin River	Wild	1
Pine Creek	Wild	8
Salina Creek	Wild	7
Slickrock Canyon	Wild	2
Steep Creek	Wild	7
The Gulch	Recreational	2
Wasatch-Cache National Forest		
East Fork Smiths Fork: Red Castle Lake to Trailhead	Wild	12
Henry's Fork: Henry's Fork Lake to Trailhead	Wild	8

* State of Utah Natural Resources Division of Wildlife Resources, Blue Ribbon Fishery

Alternative 6 – Recommend river segments recognized by public groups that represent a diversity of river systems in Utah and those that face future threats.

Eleven segments (117 miles) with Recreation as an ORV would be recommended for designation in to the Wild and Scenic River System. This alternative includes recreation representative segments from the Ashley, Dixie, Manti-La Sal and Wasatch-Cache National Forests. Those segments would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis and Table 3.1.2), and could be congressionally designated. Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, or Recreational ORVs, and require a comprehensive river management plan be developed within three years of designation to protect free flow and Recreational ORVs.

The 12 segments (63 miles) with recreation ORVs determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and impacts on recreation may occur as discussed in Alternative 2. Of those 12, two are in designated Wilderness and one is in a National Recreation Area and will remain generally unaffected. None of the 12 segments have proposed water projects, that could change current recreational qualities (see Tables 3.12.6-9).

Table 3.3b.6. Alternative 6, rivers with Recreation ORVs.

Eligible River Segment	Classification	Miles
Ashley National Forest		
Green River*	Scenic	13
Reader Creek	Scenic	6
West Fork Whiterocks River	Scenic	11
Upper White Rocks	Scenic	4
Dixie National Forest		
Death Hollow	Wild	10
North Fork Virgin River	Wild	1
Manti-La Sal National Forest		
Huntington Creek*	Recreational	19
Wasatch-Cache National Forest		
Beaver Creek: Source to Forest Boundary	Recreational	6
Henry's Fork: Henry's Fork Lake to Trailhead	Wild	8
Logan River: confluence with Beaver Creek to Bridge at Guinavah-Malibu Campground	Recreational	19
Provo River: Trial Lake to U35 Bridge	Recreational	20

* State of Utah Natural Resources Division of Wildlife Resources, Blue Ribbon Fishery

3.3c Fish and Aquatic Habitat Values

Introduction

The Fish and Aquatic Habitat ORVs are applied to river segments that contain the following: Fish values may be judged on the relative merits of either fish populations or habitat, or a combination of these river-related conditions.

a. Populations. The river is nationally or regionally an important producer of resident and/or anadromous fish species. Of particular significance is the presence of wild stocks and/or federal or state listed or candidate threatened, endangered, or sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

b. Habitat. The river provides exceptionally high quality habitat for fish species indigenous to the region of comparison. Of particular significance is habitat for wild stocks and/or federal or state listed or candidate threatened, endangered, or sensitive species. Diversity of habitats is an important consideration and could, in itself, lead to a determination of outstandingly remarkable. (FSH 1909.12, Sec. 82.14a)

This section discusses the affected environment and environmental impacts on outstandingly remarkable fish values. Refer to Fish and Aquatic Resources, Section 3.5 for a description of impacts on fish and aquatic resources in general, including threatened, endangered, candidate, sensitive, and management indicator species.

Detailed information for Section 3.3c came from Appendix A, Suitability Evaluation Reports, Summary of Outstanding Remarkable Values.

Affected Environment

Sixteen (100 miles) of the 86 eligible river segments possess outstandingly remarkable fish values. Detailed information for Table 3.3c.1 came from Appendix A, Suitability Evaluation Reports, Summary of ORVs.

Table 3.3c.1. Description of Fish ORVs by forest. Information provided is from the individual forest's Suitability Evaluation Report.

Eligible River Segment	Miles	Classification	Segment Found Suitable in Alternatives
Ashley National Forest 24 segments of which 3 have fish as an ORV.			
Green River	13	Scenic	3, 5, 6
The Green River is a world famous recreational trout fishing stream, and is one of the top "blue ribbon" fly fishing rivers in the United States. Anglers travel from all over the world to experience this exceptional tail water fishery which can produce trophy sized rainbow and brown trout. The Green River is economically essential to the local communities and its fishery values are considered outstandingly remarkable. The tail water fishery provides excellent habitat for the targeted introduced trout species and native mountain whitefish. Dam releases can be manipulated through out the summer to provide trout with optimal water temperatures. The cool, clean water provides favorable conditions for aquatic macro-invertebrate production, which constitutes almost 100% of the trout diet. Even with recent fire damage to the watershed fine sediment loads are relatively low throughout the first 16 miles of stream, allowing both brown and rainbow trout to spawn and recruit naturally. Width to depth ratios are very high and micro-habitats including deep runs, pools and eddies are in high concentration. The value of the species in the Green River is considered high due to the amount of income the communities receive from tourist dollars. Without these species of sport fish present to attract recreational anglers the communities would not experience a fraction of the current income realized. Densities of trout in the Green River rival those found anywhere in the world. A robust, naturally reproducing population of brown trout exists in the Green River. The Utah Division of Wildlife Resources does augment the population with hatchery reared fish and brown trout are the dominant species downstream of the Little Hole boat ramp. A small number of wild rainbow trout also show up the creel and annual electro-fishing survey, but do not compare to brown trout numbers. Brown trout over 21 inches are common and have been caught up to 18 pounds. Rainbows over 20 inches and 3-5 pounds are also present.			
Lower Main Sheep Creek	4	Recreational	3, 5
This segment is the only significant Kokanee salmon spawning stream reach in eastern Utah and serves as spawn for reintroduction to other water bodies in the state. It is also a popular recreation fishing area and stocked with non-natives.			
Reader Creek	6	Scenic	3, 5, 6
Several lakes are present along the stair-step series of benches from the upper to lower basin. Current fish populations include stocked brook trout and relict native Colorado River cutthroat trout. The stream is a reference reach for evaluating stream habitat since it is relatively unaltered by management activity. Treatments to eliminate the brook trout and enhance the cutthroat population were planned for the years 2000-2004. Colorado cutthroat trout restoration is continuing in Reader Creek.			
Dixie National Forest 10 segments of which 2 have Fish as an ORV.			
East Fork Boulder Creek	3	Wild	5
The segment supports a self-sustaining trout fishery with Colorado River cutthroat trout and brook trout present. The upper half mile reach of the creek is inhabited exclusively by native Colorado River cutthroat trout. Natural cascades prevent upstream movement of non-native brook trout into this upper stream segment. The Colorado River cutthroat trout within the stream are a remnant population and a genetically pure population.			

Eligible River Segment	Miles	Classification	Segment Found Suitable in Alternatives
Moody Wash	5	Wild	3, 5, 6
Moody Wash is considered a very important refuge area for Virgin spinedace (*Lepidomeda mollispinis mollispinis*), a state sensitive species, in the Virgin River Basin. It is the only tributary to the Santa Clara River that has its historic range intact and occupied. During annual periods of high flow spinedace are connected throughout the drainage; in periods of low flow spinedace recede to upper areas of perennial flow as refugia habitat. The population of Virgin spinedace is a self-sustaining, breeding population, and is considered an important population that could be used to restock other areas. Moody Wash also contains desert sucker (*Catostomus clarkia*), also a state sensitive species list, speckled dace (*Rhinichthys osculus*), and habitat for the Arizona toad (*Bufo microscaphus*) (also called southwestern toad), another state sensitive species.			
Fishlake National Forest 5 segments of which 3 have fish as an ORV.			
Fish Creek	15	Wild (4.3 mi.); Recreational (10.5 mi.)	3, 5
Historically, this stream course supported native Bonneville cutthroat trout. Currently, it supports non-native salmonid populations; however, remnant populations of native Bonneville cutthroat trout may exist in the headwaters and supporting tributaries. Native cyprinids, suckers, sculpins, and dace exist in the lower portion of Fish Creek. Fish Creek has a large volume of water and high potential for future fisheries development.			
Manning Creek	4	Wild	5, 6
Manning Creek supports an important population of Bonneville cutthroat trout. This native cutthroat trout requires good water quality and diversity of habitat. The State of Utah owns a water right for the stream, which supports instream flow. The canyon that holds the middle segment is very rugged, remote, and dominated by natural processes.			
Pine Creek/Bullion Falls	4	Wild	5
The area provides remote location for native fisheries. Bullion Falls is a significant natural barrier that provides isolation for the upper segment. DWR is considering Bonneville cutthroat trout recovery in the upper portions of the watershed. Pine Creek drains a rather large undeveloped watershed. The stream has significant boulders and cobble structures which limits potential impacts from sediment.			
Manti-La Sal National Forest 10 segments of which 0 have fish as an ORV.			
Uinta National Forest 4 segments of which 0 have fish as an ORV.			
Wasatch-Cache National Forest 33 segments of which 8 have fish as an ORV.			
Beaver Creek: South Boundary of State Land to Mouth	3	Recreational	4, 6
Fish species include brook trout, sculpin and Bonneville cutthroat trout (a sensitive species). While all the fish species in these tributaries can add to visitor enjoyment or the overall wildlife diversity in the upper Logan River drainage, the Bonneville cutthroat trout population is of special interest and value. The range of Bonneville cutthroat includes most of the eastern Great Basin. These several streams in addition to the upper portions of the main Logan River are occupied with a meta-population (that is a genetically interactive larger population of the species) that, if protected, can insure the preservation of the species, which is currently under some considerable pressure to survive due to pressures of exotic species introduction, fishing pressure, and habitat fragmentation, destruction, and/or degradation. The upper Logan River population of these fish is probably the largest and most diverse subpopulation with habitat connectivity that remains. Fish abundance for the Bonneville cutthroat is high, and the population is self-sustaining through natural spawning in both the main Logan River and these tributaries. This river system is of critical importance to Bonneville cutthroat because of its lack of migratory obstructions, the large number of connected populations, and the overall strength and diversity of the population. The importance of this meta-population of Bonneville cutthroat trout is an ORV.			
Bunchgrass Creek: Source to Mouth	5	Scenic	4, 6
Fish species include Bonneville cutthroat trout (a sensitive species). While all the fish species in these tributaries can add to visitor enjoyment or the overall wildlife diversity in the upper Logan River drainage, the Bonneville cutthroat trout population is of special interest and value. The range of Bonneville cutthroat includes most of the eastern Great Basin. These several streams in addition to the upper portions of the main Logan River are occupied with a meta-population (that is a genetically interactive larger population of the species) that, if protected, can insure the preservation of the species, which is currently under some considerable pressure to survive due to pressures of exotic species introduction, fishing pressure, and habitat fragmentation, destruction, and/or degradation. The upper Logan River population of these fish is probably the largest and most diverse subpopulation with habitat connectivity that remains. Fish abundance for the Bonneville cutthroat is high, and the population is self-sustaining through natural spawning in both the main Logan River and these tributaries. This river system is of critical importance to Bonneville cutthroat because of its lack of migratory obstructions, the large number of connected populations, and			

Eligible River Segment	Miles	Classification	Segment Found Suitable in Alternatives
the overall strength and diversity of the population. The Bonneville cutthroat trout fishery within this tributary to the upper Logan River is a significant population, because of its size, diversity, distribution within several suitable habitats, self-sustaining natural reproduction and the size and vigor of the fish. The importance of this meta-population of Bonneville cutthroat trout is an ORV.			
Little Bear Creek: Little Bear Spring to Mouth	1	Scenic	4, 6
Fish species include brown and brook trout, sculpin and Bonneville cutthroat trout (a sensitive species). The Bonneville cutthroat trout fishery within this tributary to the upper Logan River is a significant population, because of its size, diversity, distribution within several suitable habitats, self-sustaining natural reproduction and the size and vigor of the fish. The importance of this meta-population of Bonneville cutthroat trout is an ORV. While all the fish species in these tributaries can add to visitor enjoyment or the overall wildlife diversity in the upper Logan River drainage, the Bonneville cutthroat trout population is of special interest and value. The range of Bonneville cutthroat includes most of the eastern Great Basin. These several streams in addition to the upper portions of the main Logan River are occupied with a meta-population (that is a genetically interactive larger population of the species) that, if protected, can insure the preservation of the species, which is currently under some considerable pressure to survive due to pressures of exotic species introduction, fishing pressure, and habitat fragmentation, destruction, and/or degradation. The upper Logan River population of these fish is probably the largest and most diverse subpopulation with habitat connectivity that remains. Fish abundance for the Bonneville cutthroat is high, and the population is self-sustaining through natural spawning in both the main Logan River and these tributaries. This river system is of critical importance to Bonneville cutthroat because of its lack of migratory obstructions, the large number of connected populations, and the overall strength and diversity of the population.			
Logan River: Confluence with Beaver Creek to Bridge at Guinavah-Malibu Campground	19	Recreational	4, 6
Logan River: Idaho State Line to Confluence with Beaver Creek	7	Scenic	4, 6
Both Logan River from Confluence with Beaver Creek to Bridge at Guinavah-Malibu Campground and from Idaho State Line to Confluence with Beaver Creek had the following description: The Bonneville cutthroat trout fishery within this tributary to the upper Logan River is a significant population, because of its size, diversity, distribution within several suitable habitats, self-sustaining natural reproduction and the size and vigor of the fish. The importance of this meta-population of Bonneville cutthroat trout is an ORV. The range of Bonneville cutthroat includes most of the eastern Great Basin. This portion of the main Logan River along with several tributaries are occupied with a meta-population (that is a genetically interactive larger population of the species) that, if protected, can insure the preservation of the species, which is currently under some considerable pressure to survive due to pressures of exotic species introduction, fishing pressure, and habitat fragmentation, destruction, and/or degradation. The Logan River population of these fish is probably the largest and most diverse subpopulation with habitat connectivity that remains. Fish abundance for the Bonneville cutthroat is high, and the population is self-sustaining through natural spawning in both the main Logan River and these tributaries. This river system is of critical importance to Bonneville cutthroat because of its lack of migratory obstructions, the large number of connected populations, and the overall strength and diversity of the population.			
Spawn Creek: Source to Mouth	4	Scenic	4, 6
The Bonneville cutthroat trout fishery within this tributary to the upper Logan River is a significant population, because of its size, diversity, distribution within several suitable habitats, self-sustaining natural reproduction and the size and vigor of the fish. The importance of this meta-population of Bonneville cutthroat trout is an ORV. Fish species include brown and brook trout, sculpin and Bonneville cutthroat trout (a sensitive species). While all the fish species in these tributaries can add to visitor enjoyment or the overall wildlife diversity in the upper Logan River drainage, the Bonneville cutthroat trout population is of special interest and value. The range of Bonneville cutthroat includes most of the eastern Great Basin. These several streams, in addition to the upper portions of the main Logan River, are occupied with a meta-population (that is a genetically interactive larger population of the species) that, if protected, can insure the preservation of the species, which is currently under some considerable pressure to survive due to pressures of exotic species introduction, fishing pressure, and habitat fragmentation, destruction, and/or degradation. The upper Logan River population of these fish is probably the largest and most diverse subpopulation with habitat connectivity that remains. Fish abundance for the Bonneville cutthroat is high, and the population is self-sustaining through natural spawning in both the main Logan River and these tributaries. This river system is of critical importance to Bonneville cutthroat because of its lack of migratory obstructions, the large number of connected populations, and the overall strength and diversity of the population.			
Temple Fork: Source to Mouth	6	Scenic	4, 6
The Bonneville cutthroat trout fishery within this tributary to the upper Logan River is a significant population, because of its size, diversity, distribution within several suitable habitats, self-sustaining natural reproduction and the size and vigor of the fish. The importance of this meta-population of Bonneville cutthroat trout is an ORV. Fish species include brown trout, sculpin and Bonneville cutthroat trout (a sensitive species). While all the fish species in these tributaries can add to visitor enjoyment or the overall wildlife diversity in the upper Logan River drainage, the Bonneville cutthroat trout population is of special interest and value. The range of Bonneville cutthroat includes most of the eastern Great			

Eligible River Segment	Miles	Classification	Segment Found Suitable in Alternatives
Basin. These several streams in addition to the upper portions of the main Logan River are occupied with a meta-population (that is, a genetically interactive larger population of the species) that, if protected, can insure the preservation of the species, which is currently under some considerable pressure to survive due to pressures of exotic species introduction, fishing pressure, and habitat fragmentation, destruction, and/or degradation. The upper Logan River population of these fish is probably the largest and most diverse subpopulation with habitat connectivity that remains. Fish abundance for the Bonneville cutthroat is high, and the population is self-sustaining through natural spawning in both the main Logan River and these tributaries. This river system is of critical importance to Bonneville cutthroat because of its lack of migratory obstructions, the large number of connected populations, and the overall strength and diversity of the population.			
White Pine Creek: Source to Mouth	1	Scenic	4, 6
The Bonneville cutthroat trout fishery within this tributary to the upper Logan River is a significant population, because of its size, diversity, distribution within several suitable habitats, self-sustaining natural reproduction and the size and vigor of the fish. The importance of this meta-population of Bonneville cutthroat trout is an ORV. Fish species include rainbow, brown and brook trout, sculpin and Bonneville cutthroat trout (a sensitive species). While all the fish species in these tributaries can add to visitor enjoyment or the overall wildlife diversity in the upper Logan River drainage, the Bonneville cutthroat trout population is of special interest and value. The range of Bonneville cutthroat includes most of the eastern Great Basin. This stream, in addition to the upper portions of the main Logan River, is occupied with a meta-population (that is, a genetically interactive larger population of the species) that, if protected, can insure the preservation of the species, which is currently under some considerable pressure to survive due to pressures of exotic species introduction, fishing pressure, and habitat fragmentation, destruction, and/or degradation. The upper Logan River population of these fish is probably the largest and most diverse subpopulation with habitat connectivity that remains. Fish abundance for the Bonneville cutthroat is high, and the population is self-sustaining through natural spawning in both the main Logan River and these tributaries. This river system is of critical importance to Bonneville cutthroat because of its lack of migratory obstructions, the large number of connected populations, and the overall strength and diversity of the population.			

A review of the existing habitat conditions can be found in the technical report for this resource area and varies in complexity from a few notes taken on a single visit to the stream to a full detailed analysis of an entire stream segment.

Table 3.3c.2. Miles of segments with Fish ORVs found suitable by alternative and classification.

Segments with Fish ORVS		Alternatives					
		1	2	3	4	5	6
Total Segments	16	0	0	5	8	8	12
Total Miles	100	0	0	43	46	54	74
Recreational Miles	37	0	0	15	22	15	22
Scenic Miles	43	0	0	19	24	19	43
Wild Miles	20	0	0	9	0	20	9

Environmental Consequences

See Table 3.1.1 for restriction to activities within stream corridors based on classification. Refer to Table 3.1.2 for a list of basic assumptions.

Section 3.3c addresses one issue:

Issue 4 – Designation offers long-term protection of resource values. The measurement indicators are: miles of river by Wild, Scenic, and/or Recreational classification and the analysis of the impacts to Fish ORVs by river.

Alternative 1 – No action, maintain eligibility of all river segments.

All 86 river segments (840 miles) would continue to be managed as eligible for their potential inclusion into the National System, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, recommended classification and fish ORVs (see Table 3.1.2 for description of interim management). Of these 86 segments, Fish ORVs would be preserved in 17 river segments or 100 miles of stream. Fish may be adversely affected by the projects of others for which the Forest Service has no or limited authority (e.g., development of a federal dam, or licensing of a hydropower plant). If these projects were built they could change outstandingly remarkable fish values.

Alternative 2 – No rivers recommended.

In this alternative, a determination would be made that all 86 segments (840 miles) are found not suitable and released from Wild and Scenic River interim protection. Of these 86 segments, Fish ORVs occur in 17 river segments or 107 miles of stream. Protection of river values would continue to be managed by existing laws and regulations and standards provided in Forest Plans. Choosing this alternative would not in itself initiate any changes to fish values nor would it provide any additional protection for outstandingly remarkable fish values on the National Forests in Utah.

Over time, depending on area management standards, large-scale projects like dams, water projects and other activities such as timber harvest and road building could be approved for some segments, affecting outstandingly remarkable fish values. The combined effect of existing and potential water projects if managed to change the free-flow would be 69 segments, a total of 788 miles of stream (see Tables 3.12.3 and 3.12.4).

Seventeen segments (52 miles) will not be affected by water development projects or other large-scale activities and here outstandingly remarkable fish values will generally remain the same. Existing laws and regulations and Forest Plan standards would continue to be followed. Segments without water resource potential, or in extremely rugged, inaccessible areas, may remain undeveloped. Additionally, the approximately 391 miles of segments which are located in Wilderness and Research Natural Areas will generally remain unaffected.

Alternative 3 – Recommend rivers that best represent Utah ORVs while having the least affect on existing or reasonably foreseeable future water resources projects and other developmental activities.

In this alternative, 5 river segments with fish ORVs (43 miles) would be determined suitable for designation. Those segments would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis and Table 3.1.2), and could be congressionally designated. Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, or Fish ORVs, and require a comprehensive river management plan be developed within three years of designation to protect free flow and Fish ORVs.

The 11 segments (57 miles) with fish ORVs determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection (see Table 3.1.1) and effects on fish values as discussed in Alternative 2 would apply. Segments determined not suitable that have proposed water projects on them could change current outstandingly remarkable fish values (see Table 3.12.6). Under this alternative, most planned water projects might be able to move forward, and the change in outstandingly remarkable fish values is expected.

This alternative protects 212 total miles of stream of which 43 miles have fish ORVs (Table 3.3c.2). The majority of the 212 miles will be identified as Wild while a majority of the Alternative 3 Fish ORV miles will be Scenic (Table 3.3c.2).

Alternative 4 – Recommend rivers that best represent Utah ORVs that could be adversely affected by existing or reasonably foreseeable future water resources projects and other developmental activities.

In this alternative, 8 segments with fish ORVs (46 miles) would be found suitable for designation. Those segments found suitable would continue to receive interim protection (see Table 3.1.1) the effects of which are explained in Alternative 1 analysis, and could be congressionally designated. Congressional action would require a comprehensive river management plan be developed within three years of designation. Those segments with fish ORVS would be managed to protect outstandingly remarkable fish values.

The 8 segments (54 miles) determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection (see Table 3.1.1) and effects on outstandingly remarkable fish values as discussed in Alternative 2 would apply. Segments determined not suitable that have proposed water projects on them which would change current outstandingly remarkable fish values (see Table 3.12.7).

This alternative protects 204 total miles of stream of which 46 miles have fish ORVs (Table 3.3c.2). The majority of the 204 miles will be identified as Recreational affording the least protection while a majority of the Alternative 4 Fish ORV miles will be Scenic (Table 3.3c.2) affording greater protection.

Alternative 5 – Recommend rivers with low cost for management that are consistent with other Federal wild and scenic studies and which have limited negative impact to community economic development.

Eight segments with fish ORVs (54 miles) would be found suitable and recommended for designation, the effects on outstandingly remarkable fish values are discussed in Alternative 3.

The 8 segments with fish ORVs (46 miles) determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and the effects on outstandingly remarkable fish values as discussed in Alternative 2 would apply. Segments determined not suitable that have proposed water projects on them could change current outstandingly remarkable fish values (See Table 3.12.8).

This alternative protects 531 total miles of stream of which 54 miles have fish ORVs (Table 3.3c.2). The majority of the 531 miles will be identified as Wild affording the greatest protection. The majority of Alternative 5 Fish ORV miles will also be Wild (Table 3.3c.2) affording the greatest protection. It should be remembered that in many cases this will be a duplication of protection with many Wild segments being located in designated Wilderness or Research Natural Areas.

Alternative 6 – Recommend river segments recognized by public groups that represent a diversity of river systems in Utah and those that face future threats.

In Alternative 6, 12 segments with fish ORVs (74 miles) would be found suitable and recommended for designation and effects on outstandingly remarkable fish values as discussed in Alternative 3 would apply.

The 4 segments with fish ORVs (26 miles) determined not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and the effects on outstandingly remarkable fish values as discussed in Alternative 2 would apply. Segments determined not suitable that have proposed water projects on them could change current outstandingly remarkable fish values (See Table 3.12.9).

This alternative protects 442 total miles of stream of which 74 miles have fish ORVs (Table 3.3c.2). The majority of the 442 miles will be identified as Wild affording the greatest protection. The majority of Alternative 6 Fish ORV miles will be Scenic (Table 3.3c.2) protecting segments that may not be currently protected because of other designations. All river segments with fish as an ORV and that are identified as Scenic are selected in this alternative. Alternative 6 protects just over half of the miles that have fish as an ORV and are classified as Recreational. The miles with Fish as an ORV and are classified as Wild miles drop from the total available of 20 to 9 being selected under this alternative. All of the non-selected sections currently have other protective designations like Research Natural Area, Wilderness, or are identified as being in inventoried Roadless areas.

3.3d Wildlife Values

Introduction

The Wildlife ORVs are applied to river segments that contain the following: Wildlife values may be judged on the relative merits of either terrestrial or aquatic wildlife populations or habitat, or a combination of these conditions.

a. Populations. The river, or area within the river corridor, contains nationally or regionally important populations of indigenous wildlife species. Of particular significance are species considered to be unique, and/or populations of federal or state listed or candidate threatened, endangered, or sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination of outstandingly remarkable.

b. Habitat. The river, or area within the river corridor, provides exceptionally high quality habitat for wildlife of national or regional significance, and/or may provide unique habitat or a critical link in habitat conditions for federal or state listed or candidate threatened, endangered, or sensitive species. Contiguous habitat conditions are such that the biological needs of the species are met. Diversity of habitat is an important consideration and could, in itself, lead to a determination of outstandingly remarkable. (FSH 1909.12, Sec. 82.14a).

This section discusses the affected environment and environmental impacts on outstandingly remarkable Wildlife values. Refer to Wildlife (Terrestrial) Resources, Section 3.13 for a description of impacts on terrestrial wildlife resources in general, including threatened, endangered, candidate, sensitive, and management indicator species.

Detailed information for Section 3.3d came from Appendix A, Suitability Evaluation Reports, Summary of Outstanding Remarkable Values.

Affected Environment

There are 86 segments being considered statewide of which 19 have wildlife as an ORV (233 miles). The information in Table 3.3d.1 was derived from Appendix A, Suitability Evaluation Reports.

Table 3.3d.1. Description of Wildlife ORVs by forest.

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
Ashley National Forest 24 segments of which 10 have Wildlife ORVs.			
Ashley Gorge Creek	10	Wild	4
Good wildlife habitat exists due to the diversity of vegetation and deciduous trees in the canyon corridor. Habitat exists for peregrine falcon. The corridor serves as an escape route for deer and elk. This segment also provides important habitat for raptors. It has potential for bats. The segment is valuable habitat for bobcat, cougar, and bear. The benches above the canyon bottom and within the corridor provide habitat for deer in the spring and fall.			
Black Canyon	10	Wild	3, 5
This area provides extremely important habitat for raptors, including peregrine falcon and northern goshawk. Bobcat, mountain lion and bear also inhabit the corridor. The upper portion of the canyon supports heavy use by elk and deer.			
Green River	13	Scenic	3, 5, 6
The corridor encompasses a diversity of habitat types for wildlife such as river, riparian, wetland, cliff, pinyon/juniper, and sagebrush in the upland areas. These habitat-types provide excellent habitat for a high diversity of species including waterfowl, shorebirds, migratory birds, raptors, big game, small mammals (including bats), and water adapted mammals such as beaver and river otter. The Green River is the major source of water as well as riparian and wetland vegetation important for hiding, nesting, and foraging cover in this arid region. The steep cliffs provide nesting habitat for species such as raptors, swallow, small mammals, insects, and reptiles. Due to the topography and inaccessibility, these habitats have remained in an almost pristine condition. Diversity of species for the corridor is high since the diversity of habitats is also high, especially when compared to the surrounding xeric landscape. Several wildlife species that have been documented or are expected to occur in the corridor are considered briefly here. This is not intended to be an exhaustive list but to provide some insight into species diversity within the corridor. Waterfowl and shore birds known or expected based on wetland and riparian habitat types occurring in sections along the corridor or adjoining habitats include Canada geese, eared grebes, gadwalls, mallards, cinnamon teal, northern shovelers, pintails, Wilson's phalarope, long-billed curlews, sandhill cranes, and great blue herons. In addition to species like the bald eagle, golden eagle and peregrine falcon, several other species of raptors have been observed within the corridor including rough-legged hawks, red-tailed hawks, American kestrels, turkey vultures, prairie falcons, ospreys, and great horned owls. A number of passerines common to the intermountain west are expected to occur within the corridor at various times of the year. Including many migratory neo-tropical species. Known nesters in woodland or sagebrush types in the upland areas along the river include mourning doves, common nighthawks, kingbirds, wrens, mountain bluebirds, and western meadowlarks. Other birds include the Virginia's warbler, loggerhead shrike, black-throated gray warbler, burrowing owl, pinyon jay, and sage sparrow. Bighorn sheep, mule deer, and occasionally elk and moose are common big game species encountered within the corridor. Bighorn sheep use along the corridor has been occurring in recent years and is largely limited to the rocky cliffs. Other mammal species that depend on the corridor include mountain lions, bobcats, black bear, pygmy rabbits, muskrats, woodrats, marmots, and several species of squirrels and mice. Some other water-adapted mammals include the river otter and beaver.			
Lower Dry Fork Creek	7	Recreational	4
This area is important summer range and travel corridor for a variety of wildlife including deer. Mountain lions and bobcats prefer the steep rugged bedrock areas of the side tributaries and bears can be found along this segment. There is potential for bats in the limestone caves and outcrops, and a wide variety of birds occur. The corridor has diverse riparian vegetation. Flammulated owl habitat exists within the corridor, and bird population diversity is high. *Note: The Wildlife Value does not extend beyond the National Forest boundary on to land administered by the Bureau of Land Management.*			
Lower Main Sheep Creek	4	Recreational	3, 5
This area has one of the highest diversity of Neotropical-tropical migrants. The watercourse corridor is a critical wintering area for Rocky Mountain bighorn sheep and deer. Bats forage for insects in the watercourse. In addition, the area serves as habitat for bat roosting.			
Middle Main Sheep Creek	5	Recreational	3, 5
The Townsend's Big-Eared Bat is located in the Big Springs cave during winter months. Numerous other bat species utilize the canyon with a known variety of at least twelve species. The drainage is habitat for Rocky Mountain bighorn sheep. The drainage also provides habitat for Neotropical birds.			
Reader Creek	6	Scenic	3, 5, 6
Wildlife communities at this elevation are composed of alpine species usually not found at lower elevations. Ptarmigan may use the willows along the banks of this segment at certain times of the year. Ptarmigan were released in the Uinta Mountains some time ago and are stable or slowly increasing. The riparian vegetation also provides habitat for Neotropical birds, i.e., Lincolns and song sparrows. The watercourses cross through important summer range for both deer and elk, and the travel corridor for mountain goats.			
South Fork Ashley Creek	15	Scenic	*

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
This segment provides high value summer range for deer, elk and moose. The corridor of the watercourse also traverses through potential lynx habitat. There is a high potential for amphibians in the numerous potholes geologic/hydrologic features within the watercourse corridor. In addition, Pine Martins are abundant in this drainage and northern goshawks frequent the corridor during summer months.			
Upper Uinta River, including Gilbert Creek, Center Fork, and Painter Draw	40	Wild	3, 5, 6
The watercourses have a "high" rating for winter range for mountain goat; and critical summer range for mountain goat and sheep, deer, elk, moose, beaver, raptors, grouse, and pine martin. Picas, ground squirrels, and marmots are also found in this high elevation area. Bear are found in the lower portion. Lincoln sparrow, song sparrows are also in the lower portion, and there is potential goshawk habitat in the lower portion.			
Upper Yellowstone Creek, including Milk Creek	33	Wild	5, 6
The watercourses have a "high" rating for winter and summer range for mountain goat; and critical summer range for big horn sheep. Valuable summer range exists for deer, elk, and moose, as well as picas, ground squirrels and marmots in the upper end of the watercourses. There is a large population of beaver and a high potential for amphibians, ptarmigan, and moose in the mid-section of each watercourse. Bear frequent the lower portions of the drainage. Lincoln sparrow, song sparrows are also in the lower portions. There is potential goshawk habitat in the lower portions.			
Dixie National Forest 10 segments of which 0 have Wildlife as an ORV.			
Fishlake National Forest 5 segments of which 2 have Wildlife as an ORV.			
Fish Creek	15	Wild (4.3 mi.); Recreational (10.5 mi.)	3, 5
Dense riparian vegetation along with an intact watershed exists in the upper drainage. The Forest Service has designated the upper watershed as the Fish Creek Research Natural Area. The lower portion of the watershed has been impacted more by human intervention but still retains the important components to sustain ecological integrity. The entire watershed provides important habitat for neotropical and resident avifauna, deer and other mammals, amphibians, and reptile species.			
Pine Creek/Bullion Falls	4	Wild	5
Pine Creek flows support a quality riparian habitat zone along its course. The upper portion of the watershed (above Bullion Falls) is designated as a Research Natural Area.			
Manti-La Sal National Forest 10 segments of which 1 has Wildlife as an ORV.			
Fish Creek and Gooseberry Creek	21	Scenic (17.05 mi.); Recreational (3.6 mi.)	4, 6
Upper Fish Creek contains the largest breeding population of Willow Flycatchers known in the state. The area has been described as an "outstanding example of good riparian management" (1998 Southwestern Willow Flycatchers Surveys on U.S. Forest Service Lands in Utah). Good riparian habitat, as found in the Upper drainage, is important for this species. Willow Flycatchers can be found from the inlet into Scoffield Reservoir to the confluence with Gooseberry Creek. Riparian habitat, especially "good riparian habitat" is one of the rarest habitat types in Utah and currently occupies less than 1% of the state's land cover. However, 75% of Utah's bird species use riparian habitat to nest, forage, water, migrate and/or winter. As evidence of this, 54 species of birds have been observed in Fish Creek during the breeding season. Fish Creek contains extensive tracts of willow dominated habitat at least 100 m wide and more than 500 m long. This is one of the attributes that make it unique and contributes to its outstanding value as wildlife habitat. Upper Fish Creek contains numerous mammalian species including beavers, black bear, mule deer, and elk. The variety of vegetation, remoteness and large size of the Fish Creek area provides excellent habitat for elk parturition and rearing. The area also provides very high quality, relatively undisturbed, summer and fall habitat for mule deer and elk, including habitat for fawning, calving and rearing. Beaver use the riparian habitat for habitat, and bear frequent the corridors of the watercourses.			
Uinta National Forest 4 segments of which 0 have Wildlife as an ORV.			
Wasatch-Cache National Forest 33 segments of which 6 have Wildlife as an ORV.			
East Fork Smith's Fork: Red Castle Lake to Trailhead	12	Wild	3, 5
Deer, elk, moose, and Rocky Mountain big horn sheep inhabit the area. The corridor includes mountain goat habitat. Pika and ptarmigan also inhabit the corridor. No threatened or endangered animal species occur in the area. The corridor contains			

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
habitat for the following sensitive species: wolverine, Canada lynx, and boreal owl. Diversity of wildlife species, including four large ungulates, and habitats are good. Unique species such as the ptarmigan and reintroduced big horn sheep are attractions people look for.			
Henry's Fork: Henry's Fork Lake to Trailhead	8	Wild	3, 5, 6
Diversity of wildlife species, including four large ungulates and habitats are good. Unique species such as the ptarmigan and reintroduced big horn sheep are attractions people look for. No threatened, endangered, or sensitive species have been identified in the corridor, although habitat is available for wolverine, Canada lynx, boreal owl, goshawk, and great gray owl, all sensitive species. Deer, elk, moose and rocky mountain big horn sheep inhabit the area. Habitat for mountain goats is also present. Smaller species include pika and ptarmigan.			
Middle Fork Beaver Creek: Beaver Lake to Confluence with East Fork Beaver Creek	11	Wild (6.9 mi.); Scenic (4.2 mi.)	3, 5, 6
Diversity of wildlife species, including four large ungulates, and habitats are good. Unique species such as the ptarmigan and reintroduced big horn sheep are attractions people look for. No threatened, endangered, or sensitive species have been identified in the corridor, although habitat is available for wolverine, Canada lynx, boreal owl, goshawk, and great gray owl, all sensitive species. Deer, elk, moose and rocky mountain big horn sheep inhabit the area. Habitat for mountain goats is also present. Smaller species include pika and ptarmigan.			
Thompson Creek: Source to Hoop Lake Diversion	5	Wild	5
Diversity of wildlife species, including four large ungulates, and habitats are good. Unique species such as the ptarmigan and reintroduced big horn sheep are attractions people look for.			
West Fork Beaver Creek: Source to Forest Boundary	10	Wild (4.6 mi.); Scenic (5.5 mi.)	3, 5, 6
Diversity of wildlife species, including four large ungulates, and habitats are good. Unique species such as the ptarmigan and reintroduced big horn sheep are attractions people look for. No threatened, endangered, or sensitive species have been identified in the corridor, although habitat is available for wolverine, Canada lynx, boreal owl, goshawk, and great gray owl, all sensitive species. Deer, elk, moose and rocky mountain big horn sheep inhabit the area. Habitat for mountain goats is also present. Smaller species include pika and ptarmigan.			
Willard Creek	4	Scenic	3, 5
The cottonwoods in the river corridor offer prime habitat for wintering bald eagles, an endangered species. Because of its inaccessibility the habitat can be considered a refuge from human intrusions.			

*Only found in Alternatives 1 and 2.

Table 3.3d.2. Miles of segments with Wildlife ORVs found suitable by alternative and classification.

Segments with Wildlife ORVS		Alternatives					
		1	2	3	4	5	6
Total Segments	19	0	0	12	3	15	8
Total Miles	233	0	0	138	38	180	142
Recreational Miles	31	0	0	20	11	20	4
Scenic Miles	65	0	0	33	17	33	46
Wild Miles	138	0	0	86	10	128	93

Environmental Consequences

See Table 3.1.1 for restriction to activities within stream corridors based on classification. Refer to Table 3.1.2 for a list of basic assumptions.

Section 3.3d addresses one issue:

Issue 4 – Designation offers long-term protection of resource values. The measurement indicators are: miles of river by Wild, Scenic, and/or Recreational classification and the analysis of the impacts to Wildlife ORVs by river.

Alternative 1 – No action, maintain eligibility of all river segments.

All 86 river segments (840 miles) would continue to be managed as eligible for their potential inclusion into the National System, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, recommended classification, and wildlife ORVs (see Table 3.1.2 for description of interim management). Of these 86 segments, wildlife ORVs would be preserved in 19 river segments or 233 miles of stream. Wildlife may be adversely affected by the projects of others for which the Forest Service has no or limited authority (e.g., development of a federal dam, or licensing of a hydropower plant). If these projects were built they could change outstandingly remarkable wildlife values. Protection under eligibility will allow vegetation to progress towards climax. As it progresses, some habitat will be less suitable for wildlife species and more suitable for others.

Alternative 2 – No rivers recommended.

In this alternative a determination would be made that all 86 segments (840 miles) are found not suitable and released from Wild and Scenic River interim protection. Of these 86 segments, wildlife ORVs occur in 19 river segment or 233 miles of stream. Protection of river values would continue to be managed by existing laws and regulations and standards provided in Forest Plans. Choosing this alternative would not in itself initiate any changes to outstandingly remarkable wildlife values nor would it provide any additional protection for outstandingly remarkable wildlife values on the forest.

Over time, depending on area management standards, large-scale projects like dams, water projects and other activities such as timber harvest and road building could be approved for some segments, affecting outstandingly remarkable wildlife values. The combined effect of existing and potential water projects if managed to change the free-flow would be 69 segments, a total of 788 miles of stream (see Tables 3.12.3 and 3.12.4).

Seventeen segments (52 miles) will not be affected by water development projects or other large-scale activities and here outstandingly remarkable wildlife values will generally remain the same. Existing laws and regulations and Forest Plan standards would continue to be followed. Segments without water resource potential, or in extremely rugged, inaccessible areas, may remain undeveloped. Additionally, the approximately 391 miles of segments which are located in Wilderness and Research Natural Areas will generally remain unaffected. Again protection from activities will allow vegetation to progress towards climax. As it does some habitat will become less suitable for some wildlife species and more suitable for others.

Alternative 3 – Recommend rivers that best represent Utah ORVs while having the least affect on existing or reasonably foreseeable future water resources projects and other developmental activities.

Under Alternative 3, 12 rivers segments with wildlife ORVs (138 miles) would be determined suitable for designation. Those segments would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis), and could be congressionally designated. Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, or Wildlife ORVs, and require a comprehensive river management plan be developed within three years of designation to protect free flow and Wildlife ORVs.

The 7 segments (95 miles) with Wildlife ORVs determined not suitable for wild and scenic designation would be released from interim protection (see Table 3.1.1) and effects on outstandingly remarkable wildlife values as discussed in Alternative 2 would apply. Segments determined not suitable that have proposed water projects on them which could change current outstandingly remarkable wildlife values (see Table 3.12.6). Under this alternative, most planned water projects might be able to move forward, and the change in outstandingly remarkable wildlife values is expected.

Alternative 4 – Recommend rivers that best represent Utah ORVs that could be adversely affected by existing or reasonably foreseeable future water resources projects and other developmental activities.

In this alternative, 3 segments with wildlife ORVs (38 miles) would be found suitable for designation. The effects on outstandingly remarkable wildlife values are discussed in Alternative 3.

The 16 segments (195 miles) with Wildlife ORVs determined not suitable for wild and scenic designation would be released from interim protection (see Table 3.1.1) and effects on outstandingly remarkable wildlife values as discussed in Alternative 2 would apply. Segments determined not suitable that have proposed water projects on them which could change current outstandingly remarkable wildlife values (see Table 3.12.6). Under this alternative, most planned water projects might be able to move forward, and the change in outstandingly remarkable wildlife values is expected.

Alternative 5 – Recommend rivers with low cost for management that are consistent with other Federal wild and scenic studies and which have limited negative impact to community economic development.

Fifteen segments with wildlife ORVs (180 miles) would be found suitable and recommended for designation. The effects on outstandingly remarkable wildlife values are discussed in Alternative 3.

The 4 segments with wildlife ORVs (53 miles) determined not suitable for wild and scenic designation would be released from interim protection and the effects on wildlife values as discussed in Alternative 2 would apply. Segments determined not suitable that have proposed water projects on them could change current outstandingly remarkable wildlife values (See Table 3.12.8).

Alternative 6 – Recommend river segments recognized by public groups that represent a diversity of river systems in Utah and those that face future threats.

In this alternative, 8 segments with wildlife ORVs (142 miles) would be found suitable and recommended for designation and effects on outstandingly remarkable wildlife values as discussed in Alternative 3 would apply.

The 11 segments with wildlife ORVs (91 miles) determined not suitable for wild and scenic designation would be released and the effects on outstandingly remarkable wildlife values as discussed in Alternative 2 would apply. Segments determined not suitable that have proposed water projects on them could change current outstandingly remarkable wildlife values (See Table 3.12.9).

3.3e Historic and Cultural Values

Introduction

The Historic, Cultural, and/or Pre-history ORVs are applied to river segments that contain the following: The river, or area within the river corridor, contains important evidence of occupation or use by humans. Sites may have national or regional importance for interpreting history or prehistory.

a. History. Site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare or one-of-a-kind in the region. A historic site or feature, in most cases, is 50 years old or older.

b. Pre-history. Sites may have unique or rare characteristics or exceptional human interest value; represent an area where a culture or cultural period was first identified and described; may have been used concurrently by two or more cultural groups; or may have been used by cultural groups for rare sacred purposes. (FSH 1909.12, Sec. 82.14a)

Detailed information for Section 3.3e came from Appendix A, Suitability Evaluation Reports, Summary of Outstandingly Remarkable Values.

Affected Environment

Twenty of the wild and scenic river study areas possess outstandingly remarkable cultural values and historic values totaling 244 miles. See Table 3.3e.1 for a list of those river segments with outstandingly remarkable Historic or Cultural values.

Table 3.3e.1. River segments with Historic and/or Cultural ORVs by forest. (This information came from Appendix A, Suitability Evaluation Reports).

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
Ashley National Forest 24 segments of which 9 have Historic/Cultural ORVs.			
Ashley Gorge Creek	10	Wild	4
Historic: Red Pine Trail is an historic transportation route. Evidence of an old trail along canyon bottom, with several historic mining sites and writings on boulders. The springs in the lower area were used as water sources during early settlement days.			
Cart Creek Proper	10	Scenic	5
Cultural: Archaic, Fremont and late prehistoric sites (granary and rock shelters) have been located near the creek. The sites are eligible for listing to the National Register.			
Carter Creek	16	Scenic	5
Historic: The historic Carter Military Pass Road crosses through the upper portion of the segment. Some bedrock road cuts are evident. The upper portion of the drainage is also a significant historic district for work and facilities accomplished by the Civilian Conservation Corps. Cultural: Archaic, Fremont and late prehistoric sites exist within the corridor. Some of these sites are eligible for listing to the National Register. The Carter Creek granary at the mouth of the creek is a significant archaeological site. There are also significant rock shelters and storage features within the canyon areas of Carter Creek.			
Garfield Creek	17	Wild	5, 6
Cultural: There are prehistoric sites (archaic, Fremont and late prehistoric) in the upper lakes region of Garfield Creek.			
Green River	13	Scenic	3, 5, 6
Historic: John Wesley Powell's journeys down the Green and Colorado Rivers were significant national events in the exploration and description of the West. His campsites at Little Hole and Red Creek can be identified from the photographs of the expedition. The large Ponderosa trees in Powell's photos at Little Hole are still living and help locate his campsite. The diaries and other accounts list the types of activities that transpired while the party was camped in those locations. These events and information provide a wealth of interpretive and educational opportunities. The watercourse corridor contains sites or features (John Wesley Powel camping sites) that are currently listed in, or is eligible for, the National Register of Historic Places, or has been designated as a National Historic Landmark. This segment has three historic themes and periods, i.e., exploration, fur trapping, and homesteading. Cultural: An incredible number of prehistoric sites exist along this section of the river. The Bureau of Land Management is working on a cultural resource district for the Davenport Draw area and formally asked the Forest Service to include their portion			

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
of Little Hole in this designation. Multiple time periods are represented and a variety of site types have been recorded, with many sites in excellent condition. The Hayes Site contained storage pits still filled with the maize and other plant matter the Fremont people of 700 to 1500 years ago placed in them. The watercourse corridor has Paleo-Indian, archaic, Fremont, late-prehistoric, and historic cultures. The watercourse corridor represents "textbook" examples of the above mentioned cultures and provides one of the best examples of a culture or river-related event in the Region. The watercourse corridor contains sites or features that are currently listed in, or are eligible for, the National Register of Historic Places, or designated as a National Historic Landmark.			
Lower Dry Fork Creek	7	Recreational	4
Historic: There are old irrigation canals and remnants of a flume used in early timber harvesting activities. Historic gold mining activities and sheep use are evident throughout the segment. Note: The Historic Value does not extend beyond the National Forest boundary on to land administered by the Bureau of Land Management (BLM). Cultural: Culture resources are significant, with uses by archaic, Fremont and prehistoric peoples. Several important sites are eligible for listing. Members of the Ute Tribe used the area during the 1940s and 1950s. Current use by Native Americans is known. Note: The Cultural Value does not extend beyond the National Forest boundary on to land administered by the BLM.			
Pipe Creek	6	Scenic	5
Cultural: Archaic, Fremont and late prehistoric sites have been found and inventoried. Some of these sites are eligible for listing on the National Register. Current Native American uses are unknown.			
Shale Creek and Tributaries	10	Wild	5, 6
Historic: Historic themes include water supply systems, forest management, dispersed recreation and hunting. The historic Fox and Crescent Reservoirs and Dams are located in the upper headwaters. Cultural: There are large numbers of prehistoric sites (archaic, Fremont and late prehistoric) in the upper area of Shale Creek.			
West Fork Rock Creek, including Fish Creek	13	Wild	5
Historic: The historic Rhodes Cabin and Mine exist within the corridor. The mine dump and mine adits remain in good condition.			
Dixie National Forest 10 segments of which 3 have Historic/Cultural ORVs.			
Cottonwood Canyon – (Located on Dixie NF, but administered by Fishlake NF)	6	Wild	*
Cultural: The area has been used intermittently by Native Americans and pioneers.			
Slickrock Canyon – (Located on Dixie NF, but administered by Fishlake NF)	2	Wild	5
Cultural: The area has been used intermittently by Native Americans and pioneers.			
The Gulch – (Located on Dixie NF, but administered by Fishlake NF)	2	Recreational	3, 5
Cultural: The area has been used intermittently by Native Americans and pioneers.			
Fishlake National Forest 5 segments of which 1 has Historic/Cultural ORVs.			
Fish Creek	15	Wild (4.3 mi.); Recreational (10.5 mi.)	3, 5
Prehistoric/Historic: Near the headwaters, Fish Creek flows near the edge of the Gold Mountain Mining District. Gold was first discovered in Fish Creek, but the only sizeable mine was the Trappers' Pride Lode was above Fish Creek. Fish Creek was the site of two hydroelectric power plants that supplied the Kimberly community with electricity. The volume of water in Fish Creek fluctuated, so the creek was supplemented with water from other creeks via a steel and wood penstock. These plants were built by Charles Skoogaurd who later built the Fish Lake Lodge. There was a sizeable sawmill near the confluence of Fish Creek and Clear Creek. Evidence exists that the area of Fish Creek was used historically by the Fremont Indian culture and more recently by the Utes.			
Manti-La Sal National Forest 10 segments of which 5 have Historic/Cultural ORVs.			
Chippean and Allen Canyons	21	Scenic: Chippean Canyon (2.6 miles); Recreational: Allen Canyon (19 miles)	*

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
Cultural: Evidence suggests these canyon areas were used for over 6,000 years attributable to Archaic, Ancestral Puebloan, Ute, and European-American cultures, although the majority of sites date to the Ancestral Puebloan era. Ancestral Puebloan cliff dwellings, granaries, rock art, and open air pueblo sites in these canyons are indicative of high altitude occupation of the forest, particularly during the Pueblo I period (A.D. 700-900). Sites from this period are important for understanding the early formative period of the Ancestral Puebloan culture. Culturally, these sites exhibit ties toward the Mesa Verde core area to the east and may provide important data on prehistoric social interaction, economy, and other aspects of Ancestral Puebloan prehistory. Many of these sites are eligible for the National Register of Historic Places and may yield important information about prehistory. Ninety sites have been documented within the ¼ mile buffer; 70 sites are of Ancestral Puebloan affiliation. Adjacent to the Forest boundary are Ute allotment lands that were occupied during the early 1900s; these lands are no longer occupied, but are visited occasionally by land owners. Numerous additional sites are known to exist immediately beyond the corridors. Current Native American uses are few in these canyons due to limited access.			
Hammond Canyon	10	Scenic	3, 6
Cultural: Hammond Canyon has prehistoric archaeological sites that span Archaic through Ancestral Puebloan times along with Historic period use by European-Americans and Utes. Recent work in the canyon has added eight prehistoric sites including an important village with two-story buildings, prehistoric road segments, and a great kiva indicative of a community center. There are many more sites that remain undocumented within the canyon. Documented prehistoric sites largely date to the Pueblo I-Pueblo III period and include cliff dwellings, isolated granaries, rock art sites, open air habitation sites, and other facets of the Ancestral Puebloan culture. None of the sites exhibit evidence of hydraulic agriculture. Most of the documented sites are high above the stream channel and are related to mesa top farming, not riverene adaptations. Site integrity is generally good. The documented sites are generally considered eligible to the National Register of Historic Places and are currently being included in the South Cottonwood Watershed Archaeological District nomination. If eligibility for listing or actual listing on the National Register is evidence of National significance, then these sites exceed local significance. These sites may contribute information important to understanding prehistory in the area and are eligible for listing on the National Register of Historic Places under Criterion D. These sites are important components of the Mesa Verde regions archaeological heritage. The identification of the large village in Hammond Canyon with community integrative features (roads and great kiva) suggests local and regional scale social integration commonly associated with the Chaco Regional system. Elements of the Chacoan Regional System are not positively identified to the west of Comb Ridge. This village provides an important link between the Milk Ranch Point community and the Red Knobs and Cottonwood Falls communities along South Cottonwood Wash and provides evidence of complex social processes developing in the area as early as the late A.D. 800s. Current use by Native Americans is unsubstantiated. There may be gathering of sumac, pine nuts, etc. in the lower elevations of the segment by members of the Navajo Nation. The significance of these resources, therefore, is important at both local and regional scales providing important research and interpretive potential, indicating a high cultural value for this segment.			
Lower Dark Canyon, including Poison Canyon, Deadman Canyon, and Woodenshoe and Cherry Canyons	41	Wild	5, 6
Cultural: Evidence from Woodenshoe and Lower Dark Canyon suggest the canyon area was used for over 6,000 years. There are numerous prehistoric sites ranging from artifact scatters to cliff dwellings. Ancestral Puebloan cliff dwellings, granaries, rock art, and open air sites in Woodenshoe and Lower Dark Canyon are indicative of high altitude occupation of the forest, particularly during the late A.D. 1100s. Culturally, these sites exhibit ties toward the west and may provide important data on prehistoric social interaction, economy, and other aspects of late Ancestral Puebloan prehistory. Many of these sites are eligible to the National Register of Historic Places and may yield important information about prehistory. Many of the resources are within the ¼ mile buffer. These resources are not strongly associated with the stream segments, but rather the general canyon environment (e.g., topography). Several resources have significant research and interpretive potential suggesting this river segment has high cultural values.			
Miners Basin (Placer Creek)	2	Recreational	*
Historic: Historical mining operations (buildings, mine shafts, tailings) are highly visible in the headwaters. Miners Basin at one time supported a community of several hundred mineworkers and was one of the area's largest gold mining operations.			
Upper Dark, Horse Pasture, Peavine & Kigalia Canyons in Upper Dark Canyon	26	Recreational	5, 6
Cultural: Ample evidence from Upper Dark Canyon suggests the canyon area was used for over 6000 years. There are numerous prehistoric sites ranging from artifact scatters to cliff dwellings. Many of these sites are eligible to the National Register of Historic Places and may yield important information about prehistory. Temporally, there are well preserved Archaic period sites and Ancestral Puebloan sites. There is a Historic period cultural landscape related to early 20th century European-American use of the canyon for livestock and early oil extraction activities. The Scorup cattle operation is significant in local history and the settlement of San Juan County. Most of the resources are within the ¼ mile buffer. These resources are not strongly associated with the stream segments, but rather the general canyon environment (e.g., topography). Ancestral Puebloan occupations in this area reach elevations exceeding 7600 ft and represent prehistoric agricultural adaptations to high altitudes that are not found on surrounding BLM lands and few places in the region, such as Mesa Verde National Park. Early and Middle Archaic period sites found in this area contain cultural deposits that are of high research value for understanding this poorly understood period of prehistory. Several resources have significant research and interpretive potential suggesting this river segment has high cultural values.			

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
Wasatch-Cache National Forest 33 segments of which 2 have Historic/Cultural ORVs.			
Blacks Fork: Confluence of West Fork and East Fork to Meeks Cabin Reservoir	3	Recreational	*
Historic: The Old Blacks Fork Commissary is the most outstanding tie hack site in the Uintas. The historical tie hacking operations in the Uintas were river related since the rivers were the means of moving the timbers downstream. The character, size, and condition of the commissary and its eligibility for inclusion on the National Register of Historic Places makes for an ORV.			
West Fork Smiths Fork: Source to Forest Boundary	14	Wild (4 mi.); Scenic (10 mi.)	4
Historic: The Hewinta Guard Station is a historically significant log ranger station dating from the late 1920s. The historic Suicide Park Grave site is also in the corridor. The remains of several tie hack cabins are upstream from the guard station. There are some groups of up to five cabins. A relatively well-preserved splash dam is related to the cabins. This complex of structures is a significant remnant of the tie hack era and is eligible for the National Register of Historic Places. The presence and number of tie hack cabins, the graves in Suicide Park, the historic ranger cabin, and the eligibility for at least some of these for the National Register of Historic Places, makes the historic values of this stream outstandingly remarkable.			

* Segments only found in Alternatives 1 and 2.

Table 3.3e.2. Miles of segments with Historic / Cultural ORVs found suitable by alternative and classification.

Segments with Historic / Cultural ORVS		Alternatives					
		1	2	3	4	5	6
Total Segments	20	0	0	4	3	12	6
Total Miles	244	0	0	40	31	171	117
Recreational Miles	70	0	0	13	7	39	26
Scenic Miles	68	0	0	23	10	45	23
Wild Miles	107	0	0	4	14	87	68

Environmental Consequences

See Table 3.1.1 for restriction to activities within stream corridors based on classification. Refer to Table 3.1.2 for a list of basic assumptions.

Section 3.3d addresses one issue:

Issue 4 – Designation offers long-term protection of resource values. The measurement indicators are: miles of river by Wild, Scenic, and/or Recreational classification and the analysis of the impacts to Historic and Cultural ORVs by river.

Alternative 1 – No action, maintain eligibility of all river segments.

The nature of this proposed undertaking will not affect archaeological or historic sites. Archaeological and historic sites are protected from looting, vandalism, and development by The National Historic Preservation Act; The Historic Sites Act of 1935; The Antiquities Act of 1906; and The Archaeological Resources Protection Act (ARPA).

In this alternative, all 86 river segments (840 miles) would continue to be managed as eligible for their potential inclusion into the National System, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, recommended classification, and historic / cultural ORVs (see Table 3.1.2 for description of interim management). Of these 86 segments, outstandingly remarkable historic / cultural values would be protected in 20 river segments or 244 miles of stream.

Alternative 2 – No rivers recommended.

The nature of this proposed undertaking will not affect archaeological or historic sites. Archaeological and historic sites are protected from looting, vandalism, and development by The National Historic Preservation Act; The Historic Sites Act of 1935; The Antiquities Act of 1906; and The Archaeological Resources Protection Act (ARPA).

In this alternative, a determination would be made that all 86 segments (840 miles) are found not suitable and released from Wild and Scenic River interim protection. Of these 86 segments, historic / cultural ORVs occur in 20 river segment or 244 miles of stream. Protection of river values would continue to be managed by existing laws and regulations and standards provided in Forest Plans. Choosing this alternative would not in itself initiate any changes to outstandingly remarkable historic / cultural values nor would it provide any additional protection for outstandingly remarkable historic / cultural values on the National Forests in Utah.

Under Alternative 2, existing laws and regulations would still be in place, however, heritage sites would be threatened at current rates from potential development and an increasing threat over time from motorized access. Over time, depending on area management standards, large-scale projects like dams, water projects and other activities such as timber harvest and road building could be approved for some segments, affecting outstandingly remarkable historic / cultural values. The combined effect of existing and potential water projects if managed to change the free-flow would be 69 segments, a total of 788 miles of stream (see Tables 3.12.3 and 3.12.4).

Seventeen segments (52 miles) will not be affected by water development projects or other large-scale activities and here outstandingly remarkable historic / cultural values will generally remain the same. Existing laws and regulations and Forest Plan standards would continue to be followed. Segments without water resource potential, or in extremely rugged, inaccessible areas, may remain undeveloped. Additionally, the approximately 391 miles of segments which are located in Wilderness and Research Natural Areas will generally remain unaffected.

Impacts Common to Alternatives 3, 4, 5, 6

Regardless of which alternative is selected, the nature of this proposed undertaking will not affect archaeological or historic sites. Archaeological and historic sites are protected from looting, vandalism, and development by The National Historic Preservation Act; The Historic Sites Act of 1935; The Antiquities Act of 1906; and The Archaeological Resources Protection Act (ARPA).

All alternatives protect historic, prehistoric, and cultural resources. However, designation and development of comprehensive river management plan will provide added protection through: likelihood of additional cultural surveys; development of an interpretive plan that would lead to improved cultural awareness and protection; and prohibition of dams and additional limitations on roads, stream crossings, motorized use, and mineral entry.

The following number of segments with historic / cultural ORVs would be found suitable and recommended for designation:

- In Alternative 3, 4 river segments (40 miles).
- In Alternative 4, 3 river segments (31 miles).
- In Alternative 5, 12 river segments (171 miles).
- In Alternative 6, 6 river segments (117 miles).

Those segments found suitable and recommended for designation would continue to receive interim protection (the effects of which are explained in Alternative 1 analysis), and could be congressionally designated. Congressional action would protect segments from all federally assisted water development projects that would adversely affect a river's free flowing condition, water quality, or historic / cultural ORVs, and require a comprehensive river management plan be developed within three years of designation to protect free flow and historic / cultural ORVs.

The following number of segments with historic / cultural ORVs would be determined not suitable for wild and scenic designation:

- In Alternative 3, the 16 river segments (204 miles).
- In Alternative 4, 17 river segments (213 miles).
- In Alternative 5, 8 river segments (73 miles).
- In Alternative 6, 14 river segments (127 miles).

The segments determined not suitable would be released from interim protection (see Table 3.1.1) and effects on outstandingly remarkable historic / cultural values as discussed in Alternative 2 would apply.

3.3f Geologic and Hydrologic Values

Introduction

This section will first define and describe the Geologic and Hydrologic ORVs of the study segments. Then this section will discuss which streams in this study may be recommended for suitability in each alternative and then relate the affects of those recommendations to these stream related values. The Geologic and Hydrologic ORVs have been combined in this discussion and will be referred to as Geologic/Hydrologic ORVs.

The Geologic/Hydrologic ORVs are applied to stream segment corridors that contain an example of a geologic and/or hydrologic feature, a process or phenomena that is rare or unique to the region, or an outstanding example of a commonly occurring feature. The feature may be in an unusually active stage of development, represent a "textbook" example and/or represent a rare or unique combination of geologic or hydrologic landforms or features (erosional, volcanic, glacial, drainage patterns, etc.). The outstandingly remarkable Hydrologic values include exceptional water quality, unique regimes, critical hydrological related values, etc. (FSH 1909.12 Chapter 80).

Detailed information for Section 3.3f came from Appendix A, Suitability Evaluation Reports, specifically information from the physical descriptions of the river segments and the Summary of Outstandingly Remarkable Values.

Affected Environment

Outstandingly remarkably Geologic/Hydrologic values are found within 20 of the 86 river segment corridors. There are 233 river miles with a Geologic/Hydrologic ORV out of the 840 miles of river miles being studied.

The National Forests in Utah described the Geologic/Hydrologic ORV to include river corridors with exceptional examples of: waterfalls; faulting and uplift, erosional and depositional glacial features such as

U-shaped valleys, lateral and end moraines, glacial lakes, hummocky terrain, and heavily incised outwash plains; erosional and depositional landforms related to previous flooding events; karst systems that include sinkholes, caves, and underground drainage, and artesian groundwater springs complexes, there are also instances of a collapsed salt dome and lava tubes in these stream corridors. These streams flow through many geologic formations including Missippian Limestone, Weber Sandstone, Uinta Mountain Quartzite, the upper Jurassic Morrison Formation, through the Jurassic-Triassic Glen Canyon Group (Navajo, Kayenta, Wingate) to the Triassic Chinle Formation, the Mancos shale, Dakota sandstone, Morrison formation, Summerville formation, Entrada sandstone, Chinle and Moenkopi sandstone formations.

Table 3.3f.1 lists the river segments, classification, mileage, and describes the outstandingly remarkable Geologic/Hydrologic ORVs by Forest. Table 3.3f.2 lists the river segments by classification with total mileage for all the alternatives.

Table 3.3f.1. River segments with Geologic/Hydrologic ORVs (this information was provided by the Forests and can also be found in Appendix A, Suitability Evaluation Reports).

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
Ashley National Forest 24 segments of which 9 have Geologic/Hydrologic ORVs			
Ashley Gorge Creek	10	Wild	4
The upper portion of this segment flows between steep colluvial slopes underlain by Mississippian limestone. There are numerous palisade cliffs with talus piles beneath. There is active down slope movement of the colluviums, probably by creep. The stream at the bottom constantly removes material, thus keeping the slope movement active. Much of the valley bottom is filled with alluvium and glacial outwash, with numerous benches and debris flows below the side slopes. As opposed to the outwash, which is composed of Uinta Mountain quartzite, the slope wash is composed of material derived from the Morgan and Weber formations. The slope wash has built terraces and side valley fans which stand well above the glacial outwash. Flash floods carry sediment into the stream channels, but the numerous boulders in the material inhibits deep cutting. The lower gorge has exceedingly steep canyon sides and vertical cliffs, underlain by the Weber Sandstones. The vertical nature of these slopes is caused by the "jointing" in the Weber formation. In the process of down cutting the valleys, the stream also undercut the bottoms of the canyon thus removing support from the overlying rocks. The already existing "joint sets" create natural planes of weakness for rocks to fracture, break and fall. Thus, the process of canyon formation is accompanied by very impressive and spectacular rock falls. Whitewater and high flows occur in spring with snow and ice thaws. Duration of high flows is dependent on snow pack and summer storms. High flows and the rugged nature of the land provide the adventurous with unforgettable experiences. However, due to the isolation and rugged nature of the gorge, easy access is not possible. The springs in the lower portion of the gorge are charged by water entering a large karst system connected to the Dry Fork, Brownie Canyon, and other drainages. This limestone karst system (sinkholes, caves, and underground drainage) provides a significant amount of water for the Vernal Municipal Watershed. Water discharged from Oaks Park is diverted in a side drainage and enters Ashley Creek about 1/4 of the way down the drainage. Flows from this diversion add additional water in the fall when natural flows are reduced. As in other drainages along the Western Section, there is considerable loss of water to the underground karst system.			
Black Canyon	10	Wild	3, 5
Black Canyon begins on a nearly level plateau formed in the Bishop Conglomerate. It is an erosional surface that developed in a depositional environment prior to uplifting and down cutting of the Uinta Mountains. The colluviums of the Bishop Conglomerate overlay the lithology of other formations, including Mississippian limestones. The canyon bottoms are open and rounded at the weakly-dissected headwater area. There is little or no dissection of the side slopes, and few secondary tributaries exist. There are small meandering streams in the bottom, but they are not actively cutting or gulling at present. There are many sections that are intermittently dry, due to water entering or sinking in the underlying karst limestones system. The lower portion of this segment consists of exceedingly steep canyon sides and vertical cliffs underlain by Weber Sandstones. The vertical nature of these slopes is caused by "jointing" in the Weber formation. In the process of down cutting the valleys, the stream also undercut the bottoms of the canyons, thus removing support from the overlying rocks. The already existing "joint sets" create natural planes of weakness for rocks to break and fall. Thus, the process of canyon formation is accompanied by frequent spectacular rock falls. The jagged canyon sides of sandstone bedrock make access extremely limited. There are numerous boulders and down woody debris in the narrow canyon bottom, making access extremely difficult. These geological and natural features are important in a hydrologic sense, since they cause that any precipitation is rapidly discharged directly to the stream channel. Fossils can be found in various formations. The Bishop conglomerate over limestone has resulted in the karst system sinks system. There is a clear stratification of various sandstone and limestone formations exposed in canyon walls.			
Lower Dry Fork Creek	7	Recreational	4

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
Lower Dry Fork flows through a glacial outwash bottom with alluvial-colluvial side slopes. Many debris deposits occur along the drainage bottom. The outwash is predominantly quartzite of the Uinta Mountain group, but limestone colluvial, and debris also occur. The slope wash has built terraces and side valley fans which stand well above the glacial outwash. Flash floods carry sediment into the stream channel, and gullies have resulted where vegetation has been removed by fire and heavy summer storms. High intensity summer storms are common in this segment. Over 200 feet of alluvium and outwash near the canyon mouth has filled and broadened the Dry Fork Canyon bottom. The eastern canyons lack this fill and are much narrower than Dry Fork. Lower Dry Fork only flows after a large underground karst system is filled, and flows only through the month of June in most years. Water is diverted into the Mosby Cannel below Upper Dry Fork and reduces the duration of flows in Lower Dry Fork. Flows in this segment are dependent on spring melt and recharged karst systems. Much of the water entering the karst system flows underground to the Ashley Creek Drainage. Note: The Geologic/Hydrologic Value is the only value rated “High” that extends beyond the National Forest boundary on to land administered by the Bureau of Land Management.			
Middle Main Sheep Creek	5	Recreational	3, 5
Middle Main Sheep Creek has high-altered stream morphology due to flooding and debris flows. Flash flooding occurred in the 1960’s from an ice jam that dammed water and then failed. In the 1980's, a large debris flow came out of Mahogany Draw, scoured the stream, and washed out the road in numerous places. The stream itself is relatively confined in a very steep canyon comprised of steep bedrock cliffs. Faulting has created some of the most spectacular bedrock exposures, and the area is part of the Sheep Creek National Geological Area. Big Spring within this segment contributes flows to the drainage, as is part of an underground karst system.			
Reader Creek	6	Scenic	3, 5, 6
This segment descends through a broad low relief upper glaciated basin in Uinta Mountain quartzite. The area contains hummocky ground moraine and wet meadows. Wet meadows dominate this segment, and numerous seeps and springs are located adjacent to the meadow areas. These meadows are former lakes filled in by sediments following glaciation. Organic soils are found along much of the wet meadow stream reaches. As the stream moves laterally across the meadow, large chunks of bank are undercut. The watercourse corridor exhibits an excellent geomorphic example of glaciation, both scour and deposition. There are natural waterfalls, bedrock at the surface, and lateral moraines along the watercourse corridor. The watercourse corridor reveals unique educational examples of glaciation and hydrologic actions.			
South Fork Ashley Creek	15	Scenic	*
South Fork Ashley Creek is located in a glaciated valley. Meadows occur along the drainage in the lower portion of the segment. These meadows have not been glaciated; rather they are filled in lakebeds from glacial melt. Shale outcrops of the Uinta Mountain Quartzite occur at the head of the drainage, and considerable cutting and erosion is taking place. Uinta Mountain Quartzite underlies the broad tree covered drainages. In addition to the mainstream channels through the canyon bottoms, there are numerous areas of underflow with short intermittent channels. The gross shape of the landform was probably formed during Browns Park time with minor modifications, such as the formation of the stone streams during the ice age. This area was not glaciated, but large ice sheets did cover much of the area. Meadows are dominant features in areas where they formed behind bedrock constrictions, and in areas where former lakes were filled in following melting of ice sheets. These meadows are extremely wet and boggy all or most of the year and have perched water tables. Runoff is high and disturbed soils are deposited in stream channels by overland flows during summer thunderstorms and late spring snowmelt periods. Headcuts and gullies are localized near stream channels where livestock grazing and watering have been excessive. The dominant process occurring in these meadows is a slow buildup of organic material, leaching of iron from the Uinta Mountain quartzite, and slow lateral migration of the stream channels with accompanying bank caving. These areas are snowbound by early November and sometimes earlier. Diverse glaciated features exist within the watercourse corridor, i.e., Lake Wilde, other alpine lakes, unaltered streams, lateral moraines, scour, hummocky frost boreal, landslides, and a fault at the head of Lakeshore Basin. The watercourse corridor is classified as a “reference condition” for the stream type.			
Upper Yellowstone Creek, including Milk Creek	33	Wild	5, 6
The main drainages are characterized by a relatively broad glacial canyon bottom covered by a think veneer of hummocky ground moraine and outwash, and a few wet meadows, seeps and springs. Throughout are thin hummocky ground moraines and outwash, with inner gorges cut deep into the underlying quartzite bedrock. In many places the segment flows over bedrock with gradients of 3% to15%.			
Upper Uinta River, including Gilbert Creek, Center Fork and Painter Draw	40	Wild	3, 5, 6
The watercourses are located on the floor of the higher cirques, and have been affected by glacial scouring. There are areas of glacially polished bedrock. In most areas, the till is very thin, but it can be quite thick where glaciers have scoured out pockets. There is not much sediment in this segment, except where there are shale outcrops. There are numerous small lakes in the upper area, with bedrock lips from the glaciations. The broad glaciated basins below tree line occur in hummocky ground moraine along the glacial valley bottoms that exhibit a well-developed drainage pattern. The streams flow through three landform features in this area: wet meadows in the swales, dry meadows on the hummocks, and conifer-covered areas on the larger hummocks. The unit contains most of the larger glacial lakes and wet meadows in the Uinta Mountains, and consists predominantly of riparian features. The V-shaped canyons at mid elevation have many benches with bedrock outcrops of the Uinta Mountain quartzite. Frost action is active along the stream courses where the low cohesion and steep stream gradients have combined to form the V-shaped valley. The coarse material eroded from these slopes is deposited in the wider glacial bottom below. The wider canyon bottom below the above-described steep V-shaped canyon is characterized by thin veneer of hummocky ground moraine and outwash, which is located below moderately steep to very steep glacial			

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
valley walls of lateral moraines. Wet meadows, seeps and springs are located in the wide canyon bottom. Throughout much of the length, the streams have cut a gorge in the quartzite bedrock beneath the drift. However, there are locations where the streams are still flowing through the till and others where they are flowing over bedrock.			
Dixie National Forest 10 segments of which 4 have Geologic/Hydrologic ORVs			
North Fork Virgin River	1	Scenic	3, 5, 6
The North Fork of the Virgin River begins at Cascade Falls, a spring that is fed by Navajo Lake through underground lava tubes and limestone solution channel. The river flows down the south face of the Markagunt Plateau through high elevation landscapes of Jurassic and Cretaceous sediment deposits, with extensive viewsheds and examples of stream erosion in Utah. The upper portions of the watershed are located amidst the pink cliffs of the Virgin River rim.			
Mamie Creek	2	Wild	3, 5
Mamie Creek is a small creek that runs through a scenic canyon in the Box-Death Hollow Wilderness. The river flows through the Escalante Monocline and into Navajo Sandstone where the canyon narrows into a slot canyon and slickrock as it leaves the forest. The Joint Grand Staircase-Escalante National Monument/Dixie NF eligibility report did not specify why the geological value is remarkable. More information and research is needed.			
Pine Creek	8	Wild	3, 5
Pine Creek is a small, fast running creek that flows down a narrow tree lined canyon in the Box-Death Hollow Wilderness know as “The box”. The creek is predominantly a step-pool system that carves its way through the Escalante Monocline and into Navajo Sandstone. The Joint Grand Staircase-Escalante National Monument/Dixie NF eligibility report did not specify why the geological value is remarkable. More information and research is needed.			
Moody Wash	5	Wild	3, 5, 6
Moody Wash’s close connectivity to a shallow alluvial groundwater table as well as its regular inundation by flood events play a primary role in the support of the riparian and aquatic ecosystem. The mainstem of Moody Wash from its beginning approximately 1 mile above the Racer Canyon confluence to near the Forest boundary is considered a mid-elevation, transitional reach characterized by regular upwelling and downwelling of surface flow. Because of these conditions, this kind of system is particularly sensitive to human disturbances such as dams, diversions, and groundwater pumping. Moody Wash is unique to other semi-arid streams in southwest Utah in that it is a rare system that has not been impaired by these common kinds of disturbances, and is still intact and functioning. In addition, Moody Wash is unique to the majority of other stream systems in southwest Utah draining into the Virgin River Basin in that it is dominated by volcanic geology versus the more typical sedimentary limestone and sandstone well known to the area.			
Fishlake National Forest 5 segments of which 0 have Geologic/Hydrologic ORVs			
Manti-La Sal National Forest 10 segments of which 4 have Geologic/Hydrologic ORVs			
Mill Creek Gorge	3	Wild	5
The watercourse descends through five different formations in the main canyon areas (Mancos shale, Dakota sandstone, Morrison formation, Summerville formation, and Entrada sandstone). The terminus of the watercourse ends in the Navajo, Chinle and Moenkopi sandstone formations. This geology is dipping to the west, with the western edges along a collapsed salt dome (Spanish Valley). The middle canyon area has moderately steep valley bottoms, while the lower canyon areas are within narrow and steep sandstone canyons. At mid elevation, the channel crosses bench lands and drops again along moderately steep gradients over sandstone bedrock. The channel is rocky with steep gradients in the headwaters and then levels out as it crosses through basin areas.			
Roc Creek	9	Wild	3, 5
Roc Creek descends through a geologic sequence beginning at the Forest boundary at the upper end of the canyon in the upper Jurassic Morrison Formation. The sequence continues through the Jurassic-Triassic Glen Canyon Group (Navajo, Kayenta, Wingate) to the Triassic Chinle Formation at the Forest boundary at the lower end. Massive sandstone cliffs vary from 1,500 to 1,800 feet in height. The canyon follows fault lines between two collapsed salt domes (Sinbad Valley and Paradox Valley), and terminates in the Dolores River Canyon area. The channel gradient is uniform for most of its length, with moderate gradients. Considerable alluvium has been deposited within the canyon due to uniformity of gradient. Faulting and erosion has created patterns of ledges, benches and slick rock aprons along Sinbad Ridge.			
Hammond Canyon	10	Scenic	3, 6

Eligible River Segment	Miles	Classification	Segment Suitable in Alternatives
Hammond Canyon incises the eastern side of the Elk Ridge Anticline. The northern "lobe" of the canyon appears to have been influenced by the dominant fracture patterns of the rocks in the area. Most of the canyons coming off the southeastern portion of Elk Ridge trend NW-SE, as does the northern lobe of Hammond Canyon. The location of the stream forming the southern lobe of the canyon was probably heavily influenced by east-west trending faults. The canyon is up to approximately 1,000 feet deep, with steeply cut walls. In some places erosional remnants have produced spires and fins hundreds of feet high. The stratigraphy exposed in the canyon goes from late Pennyslvanian through the Triassic. Large expanses of the aeolian Wingate formation (large rounded fossil sand dunes) with contrasting ponderosa pine are located in the eastern (lower) portion of Hammond Canyon. The northern and western portion of the canyon has extensive exposures of white Cedar Mesa sandstone with dark green vegetation.			
Upper Dark Canyon	26	Recreational	5, 6
These canyons are located on the northwestern flank of the Elk Ridge Anticline. The stratigraphic section shown goes from the Upper Pennsylvanian through the Triassic, with several prominent unconformities. The canyons are generally oriented northwest-southeast, probably due to the dominant fracture pattern in the area. Abandoned uranium mines are present along the upper canyon rims where they meet Elk Ridge. The uranium deposits are in the Moss Back Member of the Chinle Formation, where an unconformity overlies the Moenkopi Formation. These canyons contain the most striking example of the white Cedar Mesa sandstone with dark green vegetation in the area, which produces one of the most characteristic features of Dark Canyon. The bottom of the canyon also contains green vegetation (grass, sagebrush, and mountain brush), contrasted with most of the canyon country in the area. In the area of the intersection of Peavine Canyon with Dark Canyon, the Cedar Mesa has weathered to form spires, fins, and arches.			
Uinta National Forest 4 segments of which 1 has Geologic/Hydrologic ORVs			
Little Provo Deer Creek	3	Recreational	3, 6
Cascade Springs is a big perennial spring complex that significantly augments water flows to the stream, and has interesting geological and hydrologic characteristics. The springs form an unusual environment for the area. Several levels of naturally developed cascading pools with clear spring waters and wetlands are inhabited by a wide variety of flora (cattails, watercress, and wildflowers) and fauna. This is a very unusual environment for the area. The springs' cool riparian setting makes them a popular attraction, and an interpretive site has been developed here because of this character. Cascade Springs was developed in the 1980's as an environmental education site and is a popular attraction for local users. Its boardwalks, bridges, paved paths, and interpretive signing make this unusual setting a very pleasant and popular destination. Educational groups use the springs as a teaching site, and it is a designated wildlife viewing area.			
Wasatch-Cache National Forest 33 segments of which 3 have Geologic/Hydrologic ORVs			
Left, Right, and East Forks Bear River: Alsop Lake and Norice Lake to near Trailhead	13	Wild	4, 6
The stream originates from intensively glaciated headlands and alpine settings in the Uinta Mountains and extends to broader floodplains, braided reaches, forests, and meadows at its lower elevations. These two forks of the Bear lie in textbook classic narrow U-shaped valleys formed by the northward movement of Pleistocene glaciers from their origins at higher elevations. The geological setting in the upper basins of the Left and Right Hand Forks of the Bear provides students of glacial geomorphology a fine example of the glacial trough shaped valleys.			
Little Cottonwood Creek: Source to Murray City Diversion	8	Recreational	4
The geologic landscape in this segment is that of a heavily glaciated valley, with steep gray granite walls. The cirques in the upper basin offer an excellent example of past glaciations. As background views from the corridor, the features reveal an interesting story of earth's history.			
Logan River: Confluence with Beaver Creek to Bridge at Guinavah-Malibu Campground	19	Recreational	4, 6
In broad scale, the entire river corridor presents an unparalleled cross section of the geologic structure and middle and lower Paleozoic carbonate stratigraphy of the west flank of the Bear River Range. A myriad of smaller geologic features fall within the confines of the corridor which contains the geologically-interesting meanders of the Logan River. The geological features most apparent along the course of the river are some of the karst features, notably Ricks Springs Cave, Logan Cave, and Wind Cave. Other caves also exist, and undoubtedly many more remain to be discovered. Ordovician quartzite strata near Right Fork contain unusually well formed and preserved fucoidal structures (fossilized casts of ancient worm borrows which appear like seaweed mats frozen in the stone). At the west end of the corridor, lake terrace gravel deposits of prehistoric Lake Bonneville perch above the river bed and mark the upper level of a lake with enormous significance in the Great Basin. Well-defined faults and shear zones cut and displace the sedimentary strata in several road cuts along the corridor, some of which also show geologically interesting small-scale folding of the strata.			

* Segment only in Alternatives 1 and 2.

Table 3.3f.2. Stream Segment Miles with Geologic/Hydrologic ORVs by Wild, Scenic, or Recreational Classification by Alternative (Source: Appendix A, Suitability Evaluation Reports and List of Rivers)

	Classification	Miles in Alt. 1 & 2	Miles in Alt. 3	Miles in Alt. 4	Miles in Alt. 5	Miles in Alt. 6
Geologic/ Hydrologic ORV	Recreational	68	8	34	31	48
	Scenic	32	17	0	7	17
	Wild	133	69	23	110	91
	Totals	233	99	57	148	156

Environmental Consequences

Impacts to the 86 Wild and Scenic study segments will be discussed in terms of which stream segments will be recommended as suitable and not suitable by alternative, the implications of managing those stream segments free-flowing and ORVs, and the expected impacts to those segments found not suitable by alternative.

Classification of the stream segments describes the existing level of development within the stream corridor and also relates to how National Forest System lands within suitable stream corridors will be managed in the future. See Table 3.1.1 for restrictions to activities within stream corridors based on classification of suitable stream segments.

For Alternatives 1 through 6, each alternative selects a different set of stream segments and has different implications for the future management of activities within the 86 Wild and Scenic study segment corridors. Refer to Table 3.1.2 for a list of basic assumptions about how each alternative may influence Forest management and activities allowed within these stream corridors.

The effects analysis in Section 3.3f will address one issue:

> Issue 4 – Designation offers long-term protection of resources values. The measurement indicator for the long-term protection of stream related Geologic/Hydrologic ORVs is miles of river by Wild, Scenic, and Recreational classification. Miles of river with Geologic/Hydrologic ORVs by alternative will also be used to analyze the possible impacts to the stream related ORVs that may result if streams are not recommended for suitability.

The information used in this analysis is from Appendix A, Suitability Evaluation Reports, Summary of ORV and physical description of the river segment sections.

General Environmental Impacts

Table 3.3f.3 lists the stream segments with Geological/Hydrological ORVs and mileages by alternative (source information from Appendix A, Suitability Evaluation Reports). The list of segments and mileages from this table and the list of streams by classification in Table 3.3f.2 will be used in combination to discuss the impacts of Alternatives 3 through 6 on the ORV. Stream segments selected in an alternative may be found suitable and managed to protect the Geologic/Hydrologic ORVs and free-flowing condition within the Wild and Scenic River system.

Stream segments determined not suitable would not be managed to protect the ORVs or the free-flowing condition within the Wild and Scenic system. Geologic/Hydrologic ORVs may be impacted by this lack of protection due to large-scale projects that change the landscape such as mining, road building, or water resource development projects. The impacts of these landscape changing activities are related to development within the stream corridor and can be managed to limit the impacts to the free-flowing condition and the river related ORVs, except for instance of water development projects. If a stream segment is determined not suitable under the Wild and Scenic River Act, there is no other protection available to protect the free-flowing condition of a stream. The free-flowing condition is crucial to sustain a Geologic/Hydrologic ORV. Therefore, stream segments with Geologic/Hydrologic ORVs that are not suitable, which are also identified as having potential water development projects related to them may be impacted by potential water projects. Stream segments that fall into this category will be listed in the following alternative discussions, please see Table 3.12.4 for the complete list of all the ORVs that may be impacted by potential water developments.

Alternative 1 – No action, maintain eligibility of all river segments.

In Alternative 1, Table 3.3f.3 shows that all of the 233 miles of river with Geologic/Hydrologic ORVs would be managed by the Forest Service to protect as eligible for inclusion into the Wild and Scenic River system to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2). The stream segments would continue to be managed based on the classification criteria for 133 miles of Wild, 32 miles of Scenic, and 68 miles of Recreational river (see Table 3.3f.2); free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant).

Table 3.3f.3. Stream segments with Geologic/Hydrologic ORVs by Alternative.

Eligible Segments with Geologic/ Hydrologic ORVs	Miles	Class.	Segment Found Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt.6
Ashley National Forest							
Ashley Gorge Creek	10	Wild	4	0	10	0	0
Black Canyon	10	Wild	3, 5	10	0	10	0
Lower Dry Fork Creek	7	Rec.	4	0	7	0	0
Middle Main Sheep Creek	5	Rec.	3, 5	5	0	5	0
Reader Creek	6	Scenic	3, 5, 6	6	0	6	6
South Fork Ashley Creek	15	Scenic	0	0	0	0	0
Upper Yellowstone Creek, including Milk Creek	33	Wild	5, 6	0	0	33	33
Upper Uinta River, including Gilbert Creek, Center Fork and Painter Draw	40	Wild	3, 5, 6	40	0	40	40
Total Miles by Alternative for the Ashley National Forest				61	17	94	79
Dixie National Forest							
North Fork Virgin River	1	Scenic	3, 5, 6	1	0	1	1
Mamie Creek	2	Wild	3, 5	2	0	2	0
Pine Creek	8	Wild	3, 5	8	0	8	0
Moody Wash	5	Wild	3,5,6	5	0	5	5
Total Miles by Alternative for the Dixie National Forest				16	0	16	6

Eligible Segments with Geologic/ Hydrologic ORVs	Miles	Class.	Segment Found Suitable in Alternatives	Miles by Alt. 3	Miles by Alt. 4	Miles by Alt. 5	Miles by Alt.6
Manti-La Sal National Forest							
Mill Creek Gorge	3	Wild	5	0	0	3	0
Roc Creek	9	Wild	3, 5	9	0	9	0
Hammond Canyon	10	Scenic	3, 6	10	0	0	10
Upper Dark Canyon	26	Rec.	5, 6	0	0	26	26
Total Miles by Alternative for the Manti-La Sal National Forest				19	0	38	36
Uinta National Forest							
Little Provo Deer Creek	3	Rec.	3, 6	3	0	0	3
Total Miles by Alternative for the Uinta National Forest				3	0	0	3
Wasatch-Cache National Forest							
Left, Right, and East Forks Bear River	13	Wild	4, 6	0	13	0	13
Little Cottonwood Creek	8	Rec.	4	0	8	0	0
Logan River (Lower)	19	Rec.	4, 6	0	19	0	19
Total Miles by Alternative for the Wasatch-Cache National Forest				0	40	0	32
Total Miles of Stream with Geologic/Hydrologic ORVs:	233	Total Miles of Stream by Alternative		99	57	148	156

Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf). Therefore, stream segments with Geologic/Hydrologic ORVs have been related to the following potential water projects: Lower Dry Fork Creek, South Fork Ashley Creek, Middle Main Sheep Creek, Upper Uinta River, Upper Yellowstone Creek, Hammond Canyon, Left, Right and East Forks Bear River, Little Cottonwood Canyon, and the Logan River (lower) segments. Please refer to Table 3.12.4 to see the entire list of all of the potential water development projects.

Alternative 2 – No rivers recommended.

In Alternative 2, Table 3.3f.3 shows that all of the 233 miles of river with Geologic/Hydrologic ORVs would not be protected by the Forest Service to maintain the free-flowing condition, the ORVs, and the classification criteria (see Table 3.1.1 and 3.1.2). Therefore all of the reasonably foreseeable future large-scale or landscape changing projects would not be further restricted within these stream corridors (these types of projects include water development projects, mining activities, and road construction). These river segments would continue to be managed under Forest Plan direction, regulations and law, and any future projects would be analyzed in a separate, site-specific NEPA document.

There are no new transportation corridors identified within any of the streams segment corridors that have Geologic/Hydrologic ORVs. There may be localized road building associated with potential timber management projects on these segments with Geologic/Hydrologic ORVs: Reader Creek, Lower Dry Fork, South Fork Ashley Creek, Black Canyon, North Fork Virgin River, Upper Dark Canyon, and Roc

Creek (for more detailed information about these projects see Section 3.11, Timber Resources and Appendix A, Suitability Evaluation Reports).

There may also be road construction associated with mining activities. These streams with Geologic/Hydrologic ORVs have been identified as having the potential mining or oil and gas potential within the corridor: Mamie Creek, Lower Dry Fork, Pine Creek, Left, Right and East Forks Bear River, Hammond Canyon, Moody Wash and Roc Creek (for more detailed information about these projects see Section 3.6, Mineral Resources, and Appendix A, Suitability Evaluation Reports).

There may also be road building and construction areas associated with the development of potential water projects. These stream segments with Geologic/Hydrologic ORVs have been related to potential water projects: Lower Dry Fork Creek, South Fork Ashley Creek, Middle Main Sheep Creek, Upper Uinta River, Upper Yellowstone Creek, Hammond Canyon, Left, Right and East Forks Bear River, Little Cottonwood Canyon, and the Logan River (lower) segments. Please refer to Table 3.12.4 to see the entire list of all of the potential water development projects, and Section 3.12, Water Resources and Water Developments.

Alternative 2 would allow for the most impacts to stream related ORVs to occur. This alternative would ensure access and the removal of restrictions related to Wild and Scenic River management for development of water projects, mining, oil and gas activities, and road building activities within the stream corridors with Geologic/Hydrologic ORVs.

Alternative 3 – Recommend rivers that best represent Utah ORVs while having the least affect on existing or reasonably foreseeable future water resources projects and other developmental activities.

In Alternative 3, Table 3.3f.3 shows that 99 miles of river with Geologic/Hydrologic ORVs would be found suitable and recommended for designation in the National System to maintain the free-flowing condition, the Geologic/Hydrologic ORVs, and classification criteria (see Table 3.1.1 and 3.1.2). Free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant). The stream segments would continue to be managed based on the classification criteria for 69 miles of Wild, 17 miles of Scenic, and 8 miles of Recreational river (see Table 3.3f.2). Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf).

In Alternative 3, 134 miles of river with Geologic/Hydrologic ORVs would be determined not suitable. Therefore all of the reasonably foreseeable future large-scale or landscape changing projects would not be further restricted within these stream corridors (these types of projects include water development projects, mining activities, and road construction). These river segments would continue to be managed under Forest Plan direction, regulations and law, and any future projects would be analyzed in a separate, site-specific NEPA document.

There are no new transportation corridors identified within any of the streams segment corridors that have Geologic/Hydrologic ORVs. There may be localized road building associated with potential timber management projects on these segments with Geologic/Hydrologic ORVs: Lower Dry Fork, South Fork

Ashley Creek, Black Canyon, Upper Dark Canyon (for more detailed information about these projects see Section 3.11, Timber Resources and Appendix A, Suitability Evaluation Reports).

There may also be road construction associated with mining activities. These streams with Geologic/Hydrologic ORVs have been identified as having the potential mining or oil and gas potential within the corridor: Lower Dry Fork, Mill Creek Gorge, and Left, Right and East Forks Bear River (for more detailed information about these projects see Section 3.6, Mineral Resources and Appendix A, Suitability Evaluation Reports).

There may also be road building and construction areas associated with the development of potential water projects. These stream segments with Geologic/Hydrologic ORVs are related to potential water projects: Lower Dry Fork Creek, South Fork Ashley Creek, Upper Yellowstone Creek, Left, Right and East Forks Bear River, Little Cottonwood Canyon, and the Logan River (lower) segments. Please refer to Section 3.12 Water Resources and Water Developments, Table 3.12.6 to see the entire list of all of the potential water development projects and the potential impacts to the Geologic/Hydrologic ORVs for this alternative.

Alternative 4 – Recommend rivers that best represent Utah ORVs that could be adversely affected by existing or reasonably foreseeable future water resources projects and other developmental activities.

In Alternative 4, Table 3.3f.3 shows that 57 miles of river with Geologic/Hydrologic ORVs would be found suitable and recommended for designation in the National System to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2). Free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant). The stream segments would continue to be managed based on the classification criteria for 23 miles of Wild, no miles of Scenic, and 34 miles of Recreational river (see Table 3.3f.2). Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf).

In Alternative 4, 176 miles of river with Geologic/Hydrologic ORVs would be determined not suitable. Therefore all of the reasonably foreseeable future large-scale or landscape changing projects would not be further restricted within these stream corridors (these types of projects include water development projects, mining activities, and road construction). These river segments would continue to be managed under Forest Plan direction, regulations and law, and any future projects would be analyzed in a separate, site-specific NEPA document.

There are no new transportation corridors identified within any of the streams segment corridors that have Geologic/Hydrologic ORVs. There may be localized road building associated with potential timber management projects on these segments with Geologic/Hydrologic ORVs: Reader Creek, South Fork Ashley Creek, Black Canyon, Upper Dark Canyon, and North Fork Virgin River (for more detailed information about these projects see Section 3.11, Timber Resources and Appendix A, Suitability Evaluation Reports).

There may also be road construction associated with mining activities. These streams with Geologic/Hydrologic ORVs have been identified as having the potential mining or oil and gas potential within the corridor: Mamie Creek, Mill Creek Gorge, Pine Creek and Hammond Canyon (for more

detailed information about these projects see Section 3.6, Mineral Resources and Appendix A, Suitability Evaluation Reports).

There may also be road building and construction areas associated with the development of potential water projects. These stream segments with Geologic/Hydrologic ORVs are related to potential water projects: Middle Main Sheep Creek, South Fork Ashley Creek, Upper Yellowstone Creek, Upper Uinta River, and Hammond Canyon. Please refer to Section 3.12 Water Resources and Water Developments, Table 3.12.7 to see the entire list of all of the potential water development projects and the potential impacts to the Geologic/Hydrologic ORVs for this alternative.

Alternative 5 – Recommend rivers with low cost for management that are consistent with other Federal wild and scenic studies and which have limited negative impact to community economic development.

In Alternative 5, Table 3.3f.3 shows that 148 miles of river with Geologic/Hydrologic ORVs would be found suitable and recommended for designation in the National System to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2). Free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant). The stream segments would continue to be managed based on the classification criteria for 110 miles of Wild river, 7 miles of Scenic river, and 31 miles of Recreational river (see Table 3.3f.2). Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf).

In Alternative 5, 85 miles of river with Geologic/Hydrologic ORVs would be determined not suitable. Therefore all of the reasonably foreseeable future large-scale or landscape changing projects would not be further restricted within these stream corridors (these types of projects include water development projects, mining activities, and road construction). These river segments would continue to be managed under Forest Plan direction, regulations and law, and any future projects would be analyzed in a separate, site-specific NEPA document.

There are no new transportation corridors identified within any of the streams segment corridors that have Geologic/Hydrologic ORVs. There may be localized road building associated with potential timber management projects on these segments with Geologic/Hydrologic ORVs: Lower Dry Fork and South Fork Ashley Creek (for more detailed information about these projects see Section 3.11, Timber Resources and Appendix A, Suitability Evaluation Reports).

There may also be road construction associated with mining activities. These streams with Geologic/Hydrologic ORVs have been identified as having the potential mining or oil and gas potential within the corridor: Lower Dry Fork, Left, Right and East Fork Bear River, and Hammond Canyon (for more detailed information about these projects see Section 3.6, Mineral Resources and Appendix A, Suitability Evaluation Reports).

There may also be road building and construction areas associated with the development of potential water projects. These stream segments with Geologic/Hydrologic ORVs are related to potential water projects: Lower Dry Fork, South Fork Ashley Creek, Hammond Canyon, Left, Right and East Forks Bear River, Logan River (lower), and Little Cottonwood Creek. Please refer to Section 3.12 Water Resources

and Water Developments, Table 3.12.8 to see the entire list of all of the potential water development projects and the potential impacts to the Geologic/Hydrologic ORVs for this alternative.

Alternative 6 – Recommend river segments recognized by public groups that represent a diversity of river systems in Utah and those that face future threats.

In Alternative 6, Table 3.3f.3 shows that 156 miles of river with Geologic/Hydrologic ORVs would be found suitable and recommended for designation in the National System to maintain the free-flowing condition, the ORVs, and classification criteria (see Table 3.1.1 and 3.1.2). Free-flowing condition and related ORVs may be adversely affected by projects of others for which the Forest Service has no or limited authority over (e.g., development of a Federal dam or hydroelectric power plant). The stream segments would continue to be managed based on the classification criteria for 91 miles of Wild river, 17 miles of Scenic river, and 48 miles of Recreational river (see Table 3.3f.2). Rivers which are determined eligible or suitable for the National System through agency planning processes (Section 5(d)(1) study rivers) are not protected from proposed hydroelectric facilities or other federally assisted water resources projects; because the protection afforded by Section 7(b) of the Act does not apply to Section 5(d)(1) study rivers. However, the managing agency should, within its authorities, protect the free-flowing values and ORVs which make the river eligible or suitable (http://www.rivers.gov/publications/q-a.pdf).

In Alternative 6, 77 miles of river with Geologic/Hydrologic ORVs would be determined not suitable. Therefore all of the reasonably foreseeable future large-scale or landscape changing projects would not be further restricted within these stream corridors (these types of projects include water development projects, mining activities, and road construction). These river segments would continue to be managed under Forest Plan direction, regulations and law, and any future projects would be analyzed in a separate, site-specific NEPA document.

There are no new transportation corridors identified within any of the streams segment corridors that have Geologic/Hydrologic ORVs. There may be localized road building associated with potential timber management projects on these segments with Geologic/Hydrologic ORVs: Black Canyon, Lower Dry Fork and South Fork Ashley Creek (for more detailed information about these projects see Section 3.11, Timber Resources and Appendix A, Suitability Evaluation Reports).

There may also be road construction associated with mining activities. These streams with Geologic/Hydrologic ORVs have been identified as having the potential mining or oil and gas potential within the corridor: Lower Dry Fork, Left, Right and East Fork Bear River, Mamie Creek, Mill Creek Gorge, Pine Creek, and Roc Creek (for more detailed information about these projects see Section 3.6, Mineral Resources and Appendix A, Suitability Evaluation Reports).

There may also be road building and construction areas associated with the development of potential water projects. These stream segments with Geologic/Hydrologic ORVs are related to potential water projects: Lower Dry Fork, South Fork Ashley Creek, River, and Little Cottonwood Creek. Please refer to Section 3.12 Water Resources and Water Developments, Table 3.12.9 to see the entire list of all of the potential water development projects and the potential impacts to the Geologic/Hydrologic ORVs for this alternative.

3.3g Ecological Values

Introduction

While no specific national evaluation guidelines have been developed for the “other similar values” category, assessments of additional river-related values consistent with the foregoing guidance may be

developed, including, but not limited to, hydrology, paleontology, and botany resources. (FSH 1909.12, Sec. 82.14a) Forests in Utah universally identified ecological values in their assessments, referring to them with different terminology including; Other Similar Values, Ecology, Ecological, and Wildlife/Ecology. For the purposes of this analysis they will all be referred to as Ecological values.

This section discusses the affected environment and environmental impacts on outstandingly remarkable ecological values. Ecological values include components of fish, wildlife, and plants. For a description of impacts on threatened, endangered, candidate, sensitive, and management indicator species refer to: Section 3.4, Botanical Resources, Section 3.5, Fish and Other Aquatic Species, and Section 3.13, Wildlife (Terrestrial) Resources.

Detailed information for Section 3.3g came from Appendix A, Suitability Evaluation Reports, Summary of Outstandingly Remarkable Values.

Affected Environment

Twenty-nine river segments (235 miles) possess outstandingly remarkable ecological values.

Table 3.3g.1 summarizes the ecological values from Appendix A, Suitability Evaluation Reports. It also provides a list of segments with ecological ORVs as well as mileage, classification, whether or not they are in an area that offers some protections by an other type of designation (Wilderness, Research Natural Area (RNA)), and suitability by alternative.

Table 3.3g.1. Segments with Ecological Outstandingly Remarkable Values.

Eligible Segment	Miles	Classification	Ecological Value Referred to in SER as:	Other Designations	Segment Found Suitable in Alternatives
Ashley National Forest 24 segments of which 3 have Ecological ORVs					
Ashley Gorge Creek	10	Wild	Other Similar Value	RNA	4
The Research Natural Area within the corridor is a good representation of local undisturbed community types: riparian, cottonwood, dogwood and blue spruce understory communities. Aspen/snowberry community occurs, with mixed conifer on numerous debris fans and on lower canyon sloes. Mountain brush occurs on the south facing slopes on the east side of the canyon and Douglas-fir on north facing slopes. Shrubs associated with bottomlands occupy the canyon bottoms. Dogwood, aspen, narrowleaf cottonwood, snowberry and mountain ash are also present. Engelmann spruce also intermingles in the canyon bottom. Everet Spring Parsley is found in riparian areas along the canyon bottom.					
Lower Main Sheep Creek	4	Recreational	Other Similar Values	NRA	3, 5
Lower Main of Sheep Creek has mixed narrow leaf cottonwood, blue spruce with alder, birch, willow as a mid story with sedges and grasses and forbs as a ground layer. The unit provides high structural diversity which supports high numbers of species, including bird species. The watercourse is an important area for species migration and genetic interaction of both Kokanee salmon and Neotropical birds.					
Reader Creek	6	Scenic	Other Similar Values	No	3, 5, 6
Reader Creek cuts through glacial moraines with an overstory cover of subalpine fir and Engelmann spruce. The riparian vegetation consists of cinquefoil meadows with sedges, grasses and low growth willows. Marsh Marigold and elephant head are common forbs in wet areas. The corridor is the epicenter for Colorado River cutthroat reintroduction, and is essential for genetic interaction. There are good examples of permafrost and sphagnum moss within the watercourse corridor. Reader Creek corridor is a textbook example of plant and animal associations.					
Dixie National Forest 10 segments of which 6 have Ecological ORVs					
Death Hollow Creek	10	Wild	Ecological	Wilderness	3, 5, 6
The joint Grand Staircase-Escalante Monument /Dixie National Forest evaluation report did not specify why the ecological value of this drainage qualifies as outstandingly remarkable. More research and information is needed.					
Mamie Creek	2	Wild	Ecological	Wilderness	3, 5
Joint Grand Staircase-Escalante National Monument/Dixie NF eligibility report did not specify why the ecological value is remarkable. More information and research is needed.					

Eligible Segment	Miles	Classification	Ecological Value Referred to in SER as:	Other Designations	Segment Found Suitable in Alternatives
Moody Wash	5	Wild	Ecological	No	3, 5, 6
Moody Wash is a semi-arid desert stream system that is very closely connected to and dependant upon a shallow alluvial groundwater table. Summer low flows become intermittent, with areas of downwelling and upwelling that support and maintain a cottonwood and willow riparian plant community. Flows also support year-round populations of Virgin spinedace, speckled dace, and desert sucker, and amphibians such as the Arizona toad and canyon treefrog. The shallow groundwater table is recharged from winter-spring flows and summer thunderstorm flows, which also provide periods of perennial flow throughout the drainage, connecting populations of fish species during these high flows. Unlike the majority of similar systems in southwest Utah and the southwest U.S. that have been affected by development, groundwater pumping, channel modifications, and invasive species such as tamarisk, Moody Wash is still a fully functioning semi-arid desert stream system. Moody Wash supports healthy, self-sustaining populations of native wildlife, including State of Utah sensitive species, and diverse, resilient riparian communities.					
Pine Creek	8	Wild	Ecological	Wilderness	3, 5
Pine Creek supports a self-sustaining trout fishery that is dominated by brown trout, and native Colorado River cutthroat trout.					
Slickrock Canyon – (On Dixie NF, but administered by Fishlake NF)	2	Wild	Ecological	No	5
The area provides vital riparian areas within an otherwise desert ecosystem.					
Steep Creek – (Located on the Dixie NF, but administered by Fishlake NF)	7	Wild	Ecological	No	3 (4 mi), 5
The area provides vital riparian areas within an otherwise desert ecosystem.					
Fishlake National Forest 4 Segments of which 2 have Ecological ORVs					
Fish Creek	15	Wild (5.5 mi.); Recreational (11.5 mi.)	Wildlife/Ecology	RNA	3, 5
Dense riparian vegetation along with an intact watershed exists in the upper Fish Creek drainage. The Forest Service has designated the upper watershed as the Fish Creek Research Natural Area. The lower portion of the watershed has been impacted more by human intervention but still retains the important components to sustain ecological integrity. The entire watershed provides important habitat for neotropical and resident avifauna, deer and other mammals, amphibians, and reptiles.					
Pine Creek / Bullion Falls	4	Wild	Wildlife/Ecology	RNA	5
Pine Creek flows support a quality riparian habitat zone along its course. The upper portion of the watershed (above Bullion Falls) is designated as a Research Natural Area.					
Manti-La Sal National Forest 10 segments of which 1 has Ecological ORVs					
Mill Creek Gorge	3	Wild	Other Similar Values	RNA	5
Mill Creek Gorge is part of the Mill Creek Gorge Research Natural Area exhibiting dense, vigorous riparian and woody shrubs in a wet environment. The narrow and deep canyon is unique to the surrounding xeric ecosystems.					
Uinta National Forest 4 segments of which 1 has Ecological ORVs					
Little Provo Deer Creek	3	Recreational	Ecological	No	3, 6
This stream corridor was determined to have moderately high value for the ecological function and rare communities, and a high value for species diversity, and ecological-related educational/scientific use and value the area affords.					
Wasatch-Cache National Forest 33 segments of which 16 has Ecological ORVs					
Boundary Creek	4	Wild	Ecology	No	6
Boundary Creek is a river and corridor which has not been modified by man. This spruce/fir and lodgepole ecological setting is at a somewhat lower elevation than some others compared in this inventory of rivers in the Uinta Mountains. As such it contains qualities that are distinct from the alpine river settings. Added to this distinction, the Boundary Creek drainage has escaped heavy recreation pressure, timber harvest and grazing over recent decades, making the area nearly pristine ecologically.					
East Fork Blacks Fork	10	Wild	Ecology	Wilderness	5
Diversity of riparian communities, including broad meadows and narrow conifer communities with a variety of associated understory species in relatively stable condition constitute an ORV. Wildlife is typical of that found across the north slope of the Uintas. The sensitive Colorado cutthroat trout is present.					
East Fork Smiths Fork	12	Wild	Ecology	Wilderness	3, 5
Diversity of riparian communities, including broad meadows and narrow conifer communities with a variety of associated understory species in relatively stable condition constitute an ORV. Uplands vegetation consists of lodgepole pine and aspen in the lower elevations, changing to spruce-fir forests at higher elevations. The upper cirque basin is characterized by Krummholz spruce-fir communities, alpine meadows, and scattered low-growing upland willows. Extensive willow stands grow in the broader riparian areas, while conifers often abut the channel in narrower valley bottoms.					
Hayden Fork: Source to Mouth	12	Recreational	Ecology	No	4, 6
Because riparian communities along the lower Hayden Fork are diverse and represent near potential climax vegetation the ecological system is functioning without impairment. Species diversity is high.					
Henry's Fork	8	Wild	Ecology	Wilderness	3, 5, 6

Eligible Segment	Miles	Classification	Ecological Value Referred to in SER as:	Other Designations	Segment Found Suitable in Alternatives
Diversity of riparian communities, including broad meadows and narrow conifer communities with a variety of associated understory species in relatively stable condition constitute an ORV. Upland vegetation consists of lodgepole pine and aspen at lower elevations, grading into spruce-fir forest at higher elevations. Krummholz spruce-fir communities and true alpine vegetation grow near the upper cirque basin. Diversity of riparian communities including broad meadows and narrow conifer communities, with a variety of willows and associated understory species are relatively stable.					
High Creek	7	Wild (4) Recreational (3)	Ecology	Wilderness	*
The ecological setting at High Creek is near potential natural condition, and is functioning in a close to optimal manner. This value, when compared to nearby adjacent drainages and areas can be considered outstandingly remarkable.					
Left, Right, and East Forks Bear River	13	Wild	Ecology	Wilderness	4, 6
The interdependency of plant, vertebrate and invertebrate species in these narrow river valleys offers a wonderful look at the unique ecological systems that have evolved here over long periods of time.					
Little Cottonwood Creek	8	Recreational	Ecology	Wilderness	4
Uplands are characterized by aspen with conifers dominating north facing slopes. At lower elevations, oak-maple communities dominate the south facing slopes. The riparian ecosystems are characterized by cottonwood, birch, box elder, and dogwood at lower elevations, giving way to aspen, alder, willows and dogwood at higher portions of this segment. The upper watershed within the corridor has significant tall forb communities of those remaining along the Wasatch Front providing spectacular wildflower displays. The rocky slopes probably support Wasatch jamesia and Garretts bladderpod, both sensitive species.					
Little East Fork: Source to Mouth	9	Wild	Ecology	Wilderness	4, 5
Upland vegetation consists of lodgepole pine and aspen at lower elevations, grading into spruce-fir forest at higher elevations. Krummholz spruce-fir parklands and true alpine vegetation grow near the upper cirque basin. Diversity of riparian communities including broad meadows and narrow conifer communities, with a variety of willows and associated understory species are in relatively stable condition. Deer, elk, and moose inhabit the area. Habitat for mountain goats is also present. Smaller species include pika and ptarmigan. Fish species include Colorado cutthroat trout (a sensitive species), brook trout and rainbow trout.					
Logan River: Beaver Creek Guinavah-Malibu Campground	19	Recreational	Ecology	No	4, 6
Ecologically, this segment contains a wide variety of plant, animal, and aquatic communities that are functioning in a relatively healthy manner, especially when compared to the proximity to local urban populations. The use of the corridor as a setting for education for local schools and the university community has been appreciated for many decades. Due to the close proximity of the river to Utah State, more is known and written about the local natural setting than for most areas of the western U.S.					
Middle Fork Beaver Creek	11	Wild (6.9 Mi.); Scenic (4.2)	Ecology	Wilderness	3, 5, 6
Diversity of riparian communities, including broad meadows and narrow conifer communities with a variety of associated understory species in relatively stable condition constitute an ORV. Diversity of communities and species is, however, high throughout the segment with willow bottoms and narrow conifer bottoms. The upland vegetation consists of lodgepole pine and aspen at lower elevations, grading into spruce-fir forest at higher elevations. Krummholz spruce-fir parklands and true alpine vegetation grow near the upper cirque basin.					
Ostler Fork	4	Wild	Ecology	Wilderness	4, 5, 6
This ecological setting is as near to "pristine" as there is on the North Slope of the Uintas. No cattle are grazed in the drainage, resulting in an ecosystem that is not affected by non-native species. Vegetation on the uplands is characterized by aspen and lodgepole at lower elevations, grading into spruce-fir forests at upper elevations. The upper cirque basin is surrounded by spruce-fir krummholz with alpine meadows at the highest elevations. Riparian communities consist of willows with grass and sedge openings. Deer, elk, moose, and possibly mountain goats inhabit the area.					
Red Butte Creek	3	Scenic	Ecology	RNA	*
The stream through Red Butte Research Natural Area has been protected from impacts and development for over 30 years; it provides an important ecological context for university research. The river and its context in the ecosystem contribute significantly to the research value of the area. One species of interest, Cypripedium calceolus, occurs within the quarter mile corridor. Only one population of this species occurs in the area and it is the only known natural population in the State of Utah. There is a naturally reproducing population of Bonneville cutthroat trout.					
Stillwater Fork: Source to Mouth	14	Wild (6.1 Mi); Scenic (8 Mi)	Ecology	Wilderness	4, 6
This ecological system is fine example of a functioning system with a variety of components. Vegetation diversity is high along the corridor. At high elevation there is alpine species predominate, while forested areas and extensive riparian and meadowland communities are present below. These communities are tied together along the river. For an area so close to development they are relatively unimpaired by use but are still highly accessible. Intact habitats exist for a wide variety of species: avian, terrestrial, and aquatic, and the overall representation of these species are high.					
West Fork Beaver Creek: Source to Forest Boundary	10	Wild (4.6 mi); Scenic (5.5 mi)	Ecology	Wilderness	3, 5, 6
Diversity of riparian communities, including broad meadows and narrow conifer communities with a variety of associated understory species in relatively stable condition constitute an ORV.					

Eligible Segment	Miles	Classification	Ecological Value Referred to in SER as:	Other Designations	Segment Found Suitable in Alternatives
West Fork Blacks Fork: Source to Trailhead	12	Wild (8 Mi.); Scenic (3.9 Mi.)	Ecology	Wilderness	3, 5
Diversity of riparian communities, including broad meadows and narrow conifer communities with a variety of associated understory species in relatively stable condition constitute an ORV. The upper portion of this segment is typical of the alpine and subalpine communities of the Uinta Mountains. Krummholz spruce communities occur at higher elevations, while Engelmann spruce, subalpine fir, and lodgepole pine dominate at mid to lower elevations along this segment. Aspen communities and aspen/conifer communities also occur at lower elevations. Riparian communities typically occur as broad meadows dominated by tall and low growing willows with herbaceous undergrowth.					

*Only found in Alternatives 1 and 2.

Environmental Consequences

See Table 3.1.1 for restriction to activities within stream corridors based on classification. Refer to Table 3.1.2 for a list of basic assumptions.

Section 3.3g addresses one issue:

Issue 4 – Designation offers long-term protection of resource value. The measurement indicator for ecological ORVs is miles of miles of river by Wild, Scenic, and/or Recreational classification and analysis of the effects to ORVs by river.

Table 4.3g.1 summarizes the effects showing miles of river segments with Ecological ORVs recommended as suitable in each alternative by classification.

Table 4.3g.1. Miles of segments with Ecological ORVs found suitable, by classification and alternative.

Segments with Ecological ORVs		Alternatives					
		1	2	3	4	5	6
Total # of Segments	29	0	0	14	8	19	13
Total Miles	235	0	0	111	89	142	120
Recreation Miles	60	0	0	19	39	14	34
Scenic Miles	30	0	0	20	8	20	24
Wild Miles	145	0	0	73	42	108	62

Alternative 1 – No action, maintain eligibility of all river segments.

Under the No Action Alternative, all 86 river segments (840 miles) would continue to be managed as eligible for their potential inclusion into the National System, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, ORVs and recommended classification. Refer to Table 3.1.2 for specifics on interim management. Ecological resources would continue to be managed by standards set forth in Forest Plans and existing laws and regulations. Ecological resources may be adversely affected by the projects of others for which the Forest Service has no or limited authority (e.g., development of a federal dam, or licensing of a hydropower plant.) If these projects were built they would dramatically change segment ecology.

Alternative 2 – No rivers recommended.

Under this alternative, a determination is made that all 86 segments (840 miles) are not suitable and released from Wild and Scenic River interim protection. Protection of river values would continue to be managed by the standards provided in the underlying Forest Plans for the area, which can be amended as needs emerge, possibly changing ecological protection for the segments. Choosing this alternative would not in itself initiate any changes to riparian ecology and it would not provide any additional protection for ecological values on the forest.

Over time dams, water projects and other activities such as timber harvest or road building could be approved for some segments, depending on area management standards. The combined effect of existing and potential water projects if managed to change the free-flow would be 69 segments, a total of 788 miles of stream (see Tables 3.12.3 and 3.12.4). If reservoirs are developed on or above some of the segments such as the Ashley Gorge Creek, Logan River, Stillwater Creek, and Hayden Creek, the ecological change would be dramatic. The change would be from a moving river and associated canyon and riparian areas, to a flat water reservoir or a creek with diminished flows. Segments determined not suitable would effect these ecological communities if they were inundated by water should a dam be constructed. Eliminating plant communities would add to the decline of riparian plants and dependent animals (including specific insects, amphibians and fish) and could diminish water quality.

Not all segments will be affected by water development projects or other activities. Segments would be managed as per Forest Plan ecological objectives. Segments without water resource potential, or in extremely rugged, inaccessible areas, may remain undeveloped. Additionally, the approximately 390 miles segments located in Wilderness and Research Natural Areas will generally remain unaffected.

Alternative 3 – Recommend rivers that best represent Utah ORVs while having the least affect on existing or reasonably foreseeable future water resources projects and other developmental activities.

Under this alternative, 14 segments (111 miles) with Ecological ORVs would be recommended for designation. These segments would continue to receive interim protection the effects of which are explained in Alternative 1 analysis and Table 3.1.2, and could be congressionally designated which would then require a comprehensive river management plan be developed within three years of designation. Those segments with ecological ORVs would be managed to protect their ecological values as well as other ORVs if applicable.

The 15 segments (124 miles) determined not suitable for wild and scenic designation would be released from Wild and Scenic interim protection and effects on ecological values as discussed in Alternative 2 would apply. Of the 15 remaining segments 10 are in a Wilderness or research natural area and ecological values would generally remain unaffected. Under this alternative, planned water projects would be able to move forward on 7 segments with ecological ORVs (see Table 3.12.6) and a change to outstandingly remarkable ecological values is expected.

Alternative 4 – Recommend rivers that best represent Utah ORVs that could be adversely affected by existing or reasonably foreseeable future water resources projects and other developmental activities.

Eight segments (89 miles) with Ecological ORVs would be recommended as suitable in Alternative 4. These segments would continue to receive interim protection the effects of which are explained in Alternative 1 and Table 3.1.2, and could be congressionally designated. Congressional action would then require a comprehensive river management plan be developed within three years of designation. Those segments with ecological ORVs would be managed to protect ecological Values. In this alternative most segments with major water projects planned would be recommended as suitable, the water projects would

not be built and no major ecological changes, as referenced above in Alternative 3, would occur on these segments.

The 21 segments (146 miles) determined not suitable for wild and scenic designation would be released from Wild and Scenic interim protection and effects on ecological values as discussed in Alternative 2 would apply. Of the 21 segments, 14 are in Wilderness or a research natural area and ecological values would generally remain unaffected. Under this alternative, planned water projects would be able to move forward on one segment with ecological ORVs, Ashley Gorge Creek (See Table 3.12.7) and a change to outstandingly remarkable ecological values is expected.

Alternative 5 – Recommend rivers with low cost for management that are consistent with other Federal wild and scenic studies and which have limited negative impact to community economic development.

Nineteen segments (142 miles) with ecological ORVs would be found suitable and recommended for designation, would continue to receive interim protection the effects of which are explained in Alternative 1 and Table 3.1.2, and could be congressionally designated. Congressional action would then require a comprehensive river management plan be developed within three years of designation. Those segments with ecological ORVs would be managed to protect ecological values.

The 10 segments (97 miles) with ecological values found not suitable for wild and scenic designation would be released from Wild and Scenic River interim protection and effects on ecological values as discussed in Alternative 2 would apply. Of these 10 segments 5 are wholly or partially in Wilderness or research natural areas and ecological values would generally remain unaffected. Under this alternative, planned water projects would be able to move forward on six segments with ecological ORVs (See Table 3.12.8) and change in ecological values is expected.

Alternative 6 – Recommend river segments recognized by public groups that represent a diversity of river systems in Utah and those that face future threats.

In Alternative 6, 13 segments (120 miles) with ecological ORVs would be found suitable and recommended for designation, would continue to receive interim protection the effects of which are explained in Alternative 1 and Table 3.1.2, and could be congressionally designated. In this alternative few of the planned water projects and their resulting changes in ecology could move forward.

Of the 16 segments (115 miles) with ecological ORVs remaining, 12 are wholly or partially in Wilderness or research natural area and ecological values would generally remain unaffected. Under this alternative, planned water projects would be able to move forward on two segments with ecological ORVs, West Fork Blacks Fork, and Little Cottonwood Creek (See Table 3.12.9) and change in ecological values would be expected on these segments.

3.4 Botanical Resources

Introduction

The botanical resources section describes the rare plants (threatened, endangered, sensitive, and watchlist), noxious weeds, and plants used as management indicator species. This section discusses the affected environment and environmental impacts of designation on botanical resources. Section 3.3g, Ecological Values describes impacts on outstandingly remarkable ecological values some of which include general descriptions of vegetation.